

KERALA-TAMIL NADU AGREEMENT ON PARAMBIKULAM ALIYAR PROJECT-1970

TAMIL NADU-KERALA INTER-STATE AGREEMENT ON THE DEMISING
OR SHARING OF WATERS OF THE RIVERS IN THE BHARATHAPUZHA,
CHALAKUDI AND PERIYAR BASINS

1. AGREEMENT made this twenty-ninth day of May of one thousand nine hundred and seventy between the Governor of Tamil Nadu (hereinafter called "the Government of Tamil Nadu" which expression shall, where the context so admits, include his successors in office and assigns) of the ONE PART and the Governor of Kerala (hereinafter called "the Government of Kerala" which expression shall, where the context so admits, include his successors in office and assigns) of the OTHER PART.
2. WHEREAS, The Government of Tamil Nadu proposed to construct dams, weirs and reservoirs across and on the Sholayar, the Parambikulam Ar, the Thunacadavu Ar, the Thekkady Ar and the Peruvuripallam Ar, all tributaries of Chalakudi River, Aliyar and Palar tributaries of Bharathapuzha and also across and on the Nirar which is tributary of the Periyar river, for the diversion of the waters of the said rivers and of Anamalayar, it tributary the of the Perriyar river for the benefit of the State of Tamil Nadu.
3. WHEREAS the Government of Kerala also proposed to construct dams, reservoirs and weirs on and across some of the said rivers and Anamalayar, a tributary of the Periyar river for the benefit of the State of Kerala.
4. WHEREAS with a view to arriving at a settlement on the question of utilisation of waters of the aforesaid rivers, the Chief Ministers/Ministers of both Governments have met in conferences and entered into agreements on 9-11-1958, 4-7-1960 and 10-5-1969 and the representatives and technical officers of both the Governments have also met in conferences and after examining the details have come to an agreement.
5. NOW THESE, presents witness and the parties hereto agree:- (a) (i) to the construction of storage and/or division works on the rivers as specified in Schedule-1 appended,
 - ii) to the demising or sharing as the case may be of waters of these rivers in the manner and subject to the conditions and limitations specified in Schedule-II,
 - iii) to the sharing of the expenditure consequent on the construction and maintenance of the works referred to in sub-clause (i) above in the manner specified in Schedule-III,
 - iv) to the establishment of a Joint Water Regulation Board for the purpose of regulating the flow of waters in accordance with the terms of this agreement as specified in Schedule-V.
 - b) Rights, liabilities and obligations other than those mentioned above shall be as specified in Schedule-IV.
 - c) The Government of Tamil Nadu and the Government of Kerala agree that that the arrangements embodied in the agreement be open to review in the light of the experience gained and to such modifications as may be mutually agreed upon, as a result of such review at the

expiry of thirty years from the ninth day of November of one thousand nine hundred and fifty-eight and once in every thirty years thereafter.

- d) This agreement shall be deemed to have come into force on the ninth day of November of one thousand nine hundred and fifty-eight.
- c) The schedules and annexures shall form part of the agreement.
- f) Every dispute, doubt, difference or question which may, at any time arise between the parties hereto touching on or arising out of or in respect of this agreement or the subject matters thereof shall be referred to the Arbitration of an Arbitrator to be agreed upon between the parties or failing agreement, to two arbitrators one to be appointed by each party hereto and in case of difference of opinion between the two arbitrators, to an Umpire appointed by the said two arbitrators, not later than one month from the date of such difference of opinion and the decision of the arbitrator or such arbitrators or Umpire, as the case may be shall be final and binding on the parties.

SCHEDULE - 1

(SEE PARAGRAPH 5(a)(i) OF THE AGREEMENT)
RIVERS AND WORKS

RIVERS

This Agreement deals with the utilisation of the flows in the following rivers and streams flowing into them, for the production of hydro electric power and irrigation, for drinking water supply, industrial use and for any other purpose for the benefit of the States of Kerala and Tamil Nadu:-

- i) Anamalayar and Nirar, both of which are tributaries of the Periyar river;
- ii) Sholayar, Parambikulam Ar, Thunacadavu Ar, Perivaripallam Ar and Thekkady Ar, all of which are tributaries of the Chalakudy river; and
- iii) Palar and Aliyar which are tributaries of the Bharathapuzha.

The above mentioned rivers which flow partly or wholly through Tamil Nadu/ Kerala and the works covered by this Agreement are indicated in the map appended.

WORKS:

The Government of Tamil Nadu shall be at liberty to carry out the following works (hereinafter called the Parambikulam Aliyar Project).

- i) Construction of a weir across Nirar at latitude $10^{\circ}17-1/2'$ N, longitude $77^{\circ}1'E$ with a diversion tunnel leading to the Tamil Nadu Sholayar Reservoir mentioned in item (ii) below. The weir shall have two river sluices of not less than 5'x6' whose sill level be 5' below the sill level of the diversion tunnel leading to the Tamil Nadu Sholayar Reservoir.
- ii) Construction of a dam across Sholayar (hereinafter called the Tamil Nadu Sholayar Reservoir) at a latitude $10^{\circ}18'$ N, longitude $76^{\circ}53'E$ with F.R.L. at R.L. + 3290 for storing the natural flows in the Sholayar and also the flows diverted from Nirar and Anamalayar, the waters being for use in the States of both Tamil Nadu and Kerala as in Schedule-II. From this reservoir a tunnel may be constructed to divert water to the Parambikulam Valley. A saddle spillway with crest level at R.L. + 3290 and M.W.L at R.L. + 3295 may be provided to surplus the waters into the Parambikulam valley, this being of the free overflow type with no shutters provided. Adequate outlets shall be provided in the dam or through a tunnel in the flanking hill so as to enable Kerala to get the supplies of water as provided in Schedule-II at all stages of effective storage in the reservoir.
- iii) Construction of a dam across Parambikulam Ar, at Paulikamudi latitude $10^{\circ}23'N$, longitude $76^{\circ}46'E$ with F.R.L. at R.L. + 1825 for storing the natural flows in the river and also the waters diverted from Anamalayar and Nirar and Sholayar with a lead off channel and tunnel to divert the waters to the Thunacadavu reservoir. The capacity of the lead off channel and tunnel shall be adequate to convey the water requirements of both the States as provided for in Schedule II at all stages of effective storage in the reservoir.

- iv) Construction of a dam across Thunacadavu Ar at latitude $10^{\circ}25-3/4'N$ longitude $76^{\circ}46'E$ with F.R.L. at R.L. +1770 to serve as a balance ing reservoir with lead off channels and tunnels for diverting water to Sarkarapathy Power House. It shall have a spillway at a level not higher than the exit tunnel sill level. The capacity of the lead off channels and tunnels shall be adequate to convey the water requirements of both the States as provided for in Schedule-II at all stages of effective storage in the reservoir.
- v) Construction of a dam across Peruvaripallam Ar at latitude $10^{\circ}26-1/2' N$, longitude $76^{\circ}46'E$ with F.R.L. at +1770 for storing and diverting the natural flows.
- vi) Construction of a dam in the Nirar below the diversion weir specified in item (i) above to store and divert the water to the extent specified in Schedule-II in the catchment between the Nirar Weir and the Nirar dam (hereinafter referred to as the lower Nirar catchment) to the Tamil Nadu Sholayar Reservoir. This is in lieu of the Thekkadi dam and Reservoir originally proposed as part of Parambikulam Aliyar Project and subsequently given up. The Nirar reservoir as proposed here will also serve to conduct water diverted from the Anamalayar. A tunnel of suitable size may be constructed to divert the water from this reservoir to the Tamil Nadu Sholayar Reservoir. The location, design and other details of the dam and the diversion tunnel will be as per specifications proposed by the Government of Tamil Nadu and approved by the Government of Kerala.
- vii) Construction of lead off canals to take the tail race waters from the Sarkarapathy Power House.
- viii) Construction of a dam across Aliyar at latitude $10^{\circ}29'N$, longitude $76^{\circ}58'E$ with F.R.L. at +1050. The Reservoir is intended to impound the natural flows of the Aliyar catchment above the reservoir and also part of the tail race waters from Sarkarapathy Power House mentioned above.
- ix) Construction of storage and diversion works across Aliyar above the Aliyar Dam mentioned in item (viii) for generation of power before the water is let down into the said dam.
- x) Construction of a dam across Palar known as Tirumurthi dam at latitude $10^{\circ}29'N$, longitude $77^{\circ}9-1/2'E$ with F.R.L. at R.L.+1337.
- xi) Other works incidental to the above works including protective works trash, regulators etc.
- II The Government of Kerala shall be at liberty to carry out the following works:
 - i) Construction of a dam across Sholayar (hereinafter called the Kerala Sholayar Reservoir) within the State of Kerala at latitude $10^{\circ}17' N$ and longitude $76^{\circ}45' E$ with F.R.L. +2663 with necessary diversion and other works.

- ii) Construction of projects in the Periyar system without reference to Tamil Nadu without affecting in any manner the irrigation rights of Tamil Nadu in respect of Periyar reservoir covered by the Periyar Lease Deed of 1886.
 - iii) Construction of storage and diversion works within the State of Kerala in Chalakudy and Bharathapuzha rivers and their tributaries but below the works covered by this agreement and without physical damage or obstruction to the works covered by this agreement.
 - iv) Other connected works incidental to the above works including protective works, trash tracks, regulators etc.
- III. All R.Ls. referring to Parambikulam Aliyar Project are based on the Project B.M. of that Project. All R.Ls. referring to Kerala Sholayar are based on the Project B.M. of that Project. The B.Ms in turn are related to M.S.L. and give mean sea level values.

SCHEDULE-II
(See PARAGRAPH 5(a)(ii) OF THE AGREEMENT)
UTILISATION OF WATERS

The actual use of the waters of these rivers shall be governed by the conditions and limitations mentioned hereunder.

1. PERIYAR BASIN

- i) ANAMALAYAR: 2.5 TMC ft. of water may be diverted every year by Tamil Nadu from Anamalayar for use in the Parambikulam Aliyar Project System. This, however, will be done after the construction of the Idamalayar Project is completed by the Government of Kerala. Details regarding the diversion of water by Tamil Nadu will be settled separately between the two Governments and a supplementary agreement executed. Kerala will undertake Projects in the Periyar system without reference to Tamil Nadu without affecting in any manner the irrigation rights of Tamil Nadu in respect of Periyar Reservoir covered by the Periyar Lease Deed of 1886.
- ii) NIRAR: a) The Government of Tamil Nadu shall be entitled to divert all waters of the river Nirar at the site of the weir mentioned in paragraph 2(i) in Schedule-I and utilise the waters for the benefit of the State of Tamil Nadu provided the entire natural flows in the river during the period from 1st October to 31st January every year are let down the river for benefit of the State of Kerala. For this purpose the river sluices will be fully left open during 1st October to 31st January. During this period the tunnel leading to Tamil Nadu Sholayar Reservoir will be kept fully closed. When the storage reservoirs contemplated by the Government of Kerala in Periyar valley begin to function, the entire natural flows of Nirar river can be diverted in full every year at the weir site by the Government of Tamil Nadu.

b) Subject to the provision of sub clause (a) above, the entire yield of the lower Nirar catchment (referred to in paragraph 2 (vi) of Schedule-I) shall be diverted into the Parambikulam system. The Government of Tamil Nadu will be entitled to draw and utilise a quantity not exceeding 16.5 TMC ft. every year (including evaporation losses) from the yield of the Parambikulam Ar, Peruvaripallam Ar, Tunacadavu Ar and the water diverted from the yield of the lower Nirar catchment. The quantity in excess of 16.5 TMC ft. (including evaporation losses) to be utilised by Tamil Nadu shall belong to Kerala and shall be made available for use by Kerala as specified in paragraph 3 below, provided however that until the Nirar reservoir is constructed and commissioned the figures and letters 16.5 TMC ft. wherever they occur in this clause shall be read and construed as 14 TMC ft.

2. CHALAKUDI BASIN: SHOLAYAR

The Government of Kerala shall be entitled to utilise a total volume of 12.3 TMC ft. of water every year amounting to the utilisation of 390 c/s average discharge from the Kerala Sholayar Reservoir (delivered and measured at the Kerala Sholayar Power House, and this quantity shall be drawn by Kerala without allowing any spill over the spillway in Kerala Sholayar dam excepting under emergency conditions. The Kerala State shall be entitled to regulate this water from the Kerala Reservoir which has an effective capacity of 5.3 TMC ft. to provide for an average discharge of 390 c/s for

power or for irrigation purposes, as the case may be, subject to the total utilisation of 12.3 TMC ft. of water annually and subject to the condition that water shall be drawn only through the power tunnel except under emergency conditions with due intimation to the Government of Tamil Nadu. After ensuring this flow and the total volume referred to above, the Government of Tamil Nadu shall be entitled to store, regulate and divert from Tamil Nadu Sholayar Reservoir, into the Parambikulam Aliyar Project system all the surplus flows of Sholayar and also the waters diverted from Nirar and Anamalayar rivers as specified in paragraph I above. The Government of Tamil Nadu shall be entitled to use the waters let down to Kerala for generation of hydro Electric Power within the limits of the State of Tamil Nadu for the benefit of the State of Tamil Nadu.

Subject to the total quantity delivered and measured at Kerala Sholayar Power House being 12.3 TMC ft. every year, the requirements of Kerala shall be supplied in the following manner:-

- i) The Government of Tamil Nadu shall let down from their reservoir in the Sholayar river such quantities of water as together with the yield from the intermediate catchment between Tamil Nadu Sholayar Reservoir and Kerala Sholayar Reservoir will ensure the following:

July 1st: Tamil Nadu shall commence filling Kerala Sholayar Reservoir from 1st July and fill it upto 5/ below the F.R.L. that is plus 2658 as soon as possible.

September 1st : Kerala Sholayar Reservoir shall be kept at the full reservoir level of plus 2663.

September 2nd to January 31st: The level in Kerala Sholayar Reservoir shall be maintained at about 5ft. below F.R.L. i.e. plus 2658.

February 1st: The Kerala Sholayar shall be kept at full reservoir level of plus 2663.

February to June: No releases need be made from Tamil Nadu Reservoir during these months provided that 12.3 TMC ft. of water had been delivered at the Kerala Sholayar Power House by 1st February.

Subject to the above, the actual regulation at Kerala Sholayar Power House shall be as decided by the Government of Kerala.

- ii) The Government of Kerala shall not ordinarily operate the undersluices or river outlets in the Kerala Sholayar Reservoir except under emergency conditions and during flood seasons, and when they are so operated due intimation should be given to the authorised officers of the Government of Tamil Nadu.

3. PARAMBIKULAM GROUP OF RIVERS

- a) As already stated in paragraph 1 (ii) of this Schedule and subject to the proviso thereto out of the total annual yield of the Parambikulam Ar, Thunacadavu Ar, and Peruvuripallam Ar, hereinafter referred to as the Parambikulam system at the respective dam sites and the lower Nirar catchment at the Nirar Dam site, the Government of Tamil Nadu shall be entitled to store and divert every year, a total quantity not exceeding 16.5 TMC ft. including the Tamil Nadu share of evaporation losses.

NOTE: Out of the evaporation losses of Parambikulam waters 0.150 TMC ft. should be met from the share of 16.5 TMC ft. of Tamil Nadu and the formula $X - 0.186 \text{ TMC ft.} + 16.350 \text{ TMC ft.}$ adopted to measure the quantum of water at the Sarkarpathy Power House where X =quantum of water coming out of the first power house. 0.186 TMC ft. =evaporation losses of Sholayar and Nirar waters in Parambikulam Reservoir. 16.350 TMC ft. = Parambikulam water after allowing for evaporation losses.

- b) i) Subject to the provisions of the proviso to paragraph 1(ii) (b) of this schedule any surplus over 16.5 TMC ft. or 14 TMC ft. as the case may be, including concerned evaporation losses available from the yield at Parambikulam, Tunacadavu and Peruvuripallam dam sites and the Lower Nirar catchment at the Nirar Dam site shall belong to the Government of Kerala. The quantity available shall be determined by gauging in the rivers carried out jointly by the technical officers of the two Governments for a period of ten years from July 1970 under the supervision of the Joint Water Regulation Board. But as an interim measure, average of the gaugings for the year 1970-71 shall be used for the first year of operation under the Joint Water Regulation Board and gradually corrected on the basis of the observations of each succeeding year till the 10th year when the final figures shall be determined and accepted.
- ii) Out of the surplus so determined, the Government of Kerala shall be entitled to a quantity upto 2.5 TMC ft. for the exclusive use of Kerala for irrigating lands in Chittur taluk. This quantity to which the Government of Kerala is entitled shall be stored and diverted to the east of the ghats through the tunnels of the State of Tamil Nadu and made available to the State of Kerala through the high level canal to be constructed exclusively for the use of Kerala at the cost of the Government of Kerala branching off from Sirkarpathy power house or Sethumada canal for irrigating lands in Chittur Taluk in the State of Kerala. Until the high level canal is constructed, Kerala will have the right to use this quantity of water in the Chitturpuzha system Water in excess of 19 TMC ft. or 16.5 TMC ft. after setting off 16.5 TMC ft. or 14 TMC ft. as the case may be to be drawn by Tamil Nadu and 2.5 TMC ft. to be drawn through Parambikulam conductor system for use in Kerala, if any shall be let down into the Chalakudi basin through the spillway, and outlet arrangements in the dams across the Parambikulam group of rivers.
- iii) If the surplus available for diversion for use in the Chitturpuzha valley is short of 2.5 TMC ft. the Government of Kerala may make up the shortfall by diversion from other Kerala sources, if they do desire.

4. ALIYAR

- a) At present an extent of 20,000 acres of double crop wet lands in Chitturpuzha Valley in Kerala State (including an extent of 5,000 acres of land raising Varthu Vitha crop) and an extent of -6400 acres of double crop wet lands in Tamil Nadu are being irrigated from the waters of Palar and Aliyar rivers. The Government of Tamil Nadu shall apply annually at Manacadavu Weir near Kerala border 7.250 TMC ft. of water exclusive of unutilisable flood waters for assured irrigation of 20,000 acres in Kerala (including 5,000 acres of Varthu Vitha).

Explanation: Anyflow at Manacadavu Weir during any fortnight, exceeding the quantum which has to be regulated and supplied as shown in Annexure-I will be deemed unutilisable

b) The actual regulation for the supply of water for the Kerala Ayacut below Manacadavu Weir shall be as specified in Annexure-I and such supplies shall be ensured by the Government of Tamil Nadu.

c) The Joint Water Regulation Board may make any variation to suit local conditions in requirements specified in Annexure-I subject to the total quantum being 7.250 TMC ft. annually.

d) The Joint Water Regulation Board will fix points for gaugings of the flows of Palar below Thirumurthi Dam and the Aliyar and also at the different anicuts in two rivers above Manacadavu Weir.

5. THEKKADI Ar.

Tamil Nadu will have no claim for the waters of Thekkadi Ar.

6. JOINT WATER REGULATION BOARD

As the flows from one river into another and from one reservoir/weir into another are inter-connected, there shall be a Joint Water Regulation Board referred to in paragraph 5(a)(iv) the constitution, functions, powers and duties of which are defined in Schedule V.

7. In all calculations of yield, transfer, discharge, delivery and utilisation, year by year, of waters in the rivers, Reservoirs, Power Houses and Canals, initial and final storages and intermediate flows will be taken into account to the extent they are necessary and relevant.

SCHEDULE -III
(SEE PARAGRAPH 5(a)(iii) OF THE AGREEMENT)
FINANCIAL TERMS

PARAMBIKULAM ALIYAR PROJECT

1.
 - i) The Government of Kerala shall contribute to the cost of construction of the works of the Parambikulam Aliyar Project that are beneficial to them in proportion to the benefit derived as mentioned in paragraph 2 to 4.
 - ii) The following works of Parambikulam Aliyar Project will benefit the State of Kerala:
 - a) Aliyar Reservoir.
 - b) Nirar Reservoir.
 - c) Tunnel from Nirar Reservoir to Tamil Nadu Sholayar Reservoir.
 - d) Parambikulam Reservoir.
 - e) Tunnel from Parambikulam Reservoir to Tunacadavu Reservoir.
 - f) Tunacadavu Reservoir.
 - g) Peruvaripallam Reservoir.
 - h) Water conductor system from the Tunacadavu Reservoir to Sarkarpathi Power House.
 - i) High Level Canal branching off from Sethumadai canal or from Sarkarpathy Power House, for irrigating lands in Kerala.

The works (a) to (h) will be executed by the Government of Tamil Nadu at their cost in the first instance. The proportionate cost of the works beneficial to Kerala will be borne by the Government of Kerala. Work (i) will be executed as a deposit work by the Government of Tamil Nadu at the cost of the Government of Kerala.

2. The benefit to Tamil Nadu from Aliyar Reservoir is computable at a quantity of 5.5 TMC ft. of water per year while the benefit to Kerala is by way of stabilisation of the existing wet ayacut assessable at 1 TMC ft. per year. The capital and maintenance cost of the Aliyar Dam shall, therefore, be shared between Tamil Nadu and Kerala in the ratio of 11:2.

3. The total quantity of water impounded and utilised in the Parambikulam Aliyar Project system in an average year can be computed as 33 TMC ft. as detailed below:-

Diverted from the Anamalayar	..	.. 2.5 TMC ft.
Diverted from the Nirar Weir	..	.. 9 "
Diverted from the Tamil Nadu Sholayar	..	... 2.5 "
Diverted from the Nirar Reservoir, Parambikulam Dam,		
Tunacadavu Dam and Peruvaripallam Dam	..	.. 19 "
Total	..	33 "

The capital and maintenance costs of all works mentioned in (b) to (h) in paragraph 1 (ii) shall first be allocated in the ratio of 50:50 between power and irrigation and the cost allocated to power shall be met entirely by Tamil Nadu. The portion of the capital and maintenance cost of these works allocated to irrigation shall be shared between the Governments of Tamil Nadu and Kerala in the ratio of 305:25 or 61:5.

4. The entire capital, maintenance and operation costs of the High Level Channel mentioned as item (i) in paragraph 1 (ii) shall be borne by the Government of Kerala.

5. The operation cost in respect of joint gauging by both the Governments will be borne by the respective Governments.

SCHEDULE-IV

(See PARAGRAPH 5(b) OF THE AGREEMENT) MISCELLANEOUS PROVISIONS

1. The operation of spillway control gates and other surplusing and outlet arrangements of works covered by this agreement shall be judiciously managed so as to ensure the safety of the downstream structures. Timely flood warning should be given to avert flood disasters. If there should be failure in taking adequate precautionary measures and giving timely intimation, the joint Water Regulation Board shall immediately conduct an enquiry and make a report to the two Governments.
2. Free access shall be given by either State to the officers authorised by the Government of the other State to all dams and appurtenant structures covered by this agreement constructed and maintained by them and also to all the records relating to the maintenance and operation of such dams and structures, constructed, under construction and to be constructed.
3. The right of the Government of Tamil Nadu to utilise the lands covered by the licence and lying within the Kerala State for the construction, maintenance and operation of the Parambikulam Aliyar Project shall in no way affect the rights of the Government of Kerala in the said lands and the Government of Kerala shall continue to have full rights in respect of the said lands (subject to the terms and conditions of this agreement).
4. All activities connected with the promotion and developments of tourism in the lands covered by the licence lying within the State of Kerala shall be under the control of the Government of Kerala.
5. The Government of Kerala shall have the exclusive right, authority and liberty of fishing and breeding of fish in the following reservoirs, namely, Parambikulam, Tunacadavu, Peruvaripallam and Kerala Sholayar.
6. The navigation rights in all the rivers and reservoirs lying within the State of Kerala shall vest in the Government of Kerala. The Government of Kerala shall be the sole authority to issue licences to boats and other vessels plying in these waters. Subject to these provisions the officers of Tamil Nadu are permitted to ply their inspection boats in these rivers and reservoirs.
7. The Government of Kerala shall be the sole authority for the maintenance of law and order in the area covered by the Parambikulam Aliyar Project lying within the State of Kerala.
8. All residual rights not specifically mentioned in this agreement in respect of the lands and rivers used for the Parambikulam Aliyar Project shall vest with the Government in whose territory they are situated.
9. The Government of Kerala shall grant to the Government of Tamil Nadu, licence for the use of all the lands required permanently by the reservoirs and the construction of dams and the appurtenant structures relating to Parambikulam Aliyar Project. The rent for the use of the land, compensation for the trees to be cut and removed from the sites and the terms and conditions of the licence shall be as detailed in Annexure-II appended.

10. Compensation for the Kerala Government forests made available to the Government of Tamil Nadu for the use of the Parambikulam Aliyar Project shall be paid in accordance with the terms and conditions of this agreement and the recommendations made by the Joint team of officers of the Government of Tamil Nadu and Kerala on 12th August, 1965 and agreed to by both the Governments.

11. The Government of Kerala shall also grant to the Government of Tamil Nadu licence for the use of all lands required temporarily by the Government of Tamil Nadu for the works connected with the Parambikulam Aliyar Project. The period of this licence shall be limited to the actual period of construction of the Parambikulam Aliyar Project and no compensation of any kind shall be payable to the Government of Tamil Nadu on the termination of the licence. For the buildings constructed by Tamil Nadu and taken over by the Government of Kerala compensation will be paid. The rent for the use of the land covered by the licence, the compensation for trees to be cut and removed from the sites and the terms and conditions of the licence shall be as mentioned in Annexure-II.

12. The Government of Tamil Nadu shall be given free use of all the existing roads within the project area for the plying of vehicles and other normal use in connection with the execution, operation and maintenance of the Parambikulam Aliyar Project and the entire responsibility for upkeep and maintenance of these roads, as prescribed by the Chief Engineer, Public Works Department, Kerala shall be that of the Government of Tamil Nadu, no contribution being made for this purpose by the Government of Kerala. The Officers and nominees of the Government of Kerala shall have free use of all these roads for any departmental or other vehicles authorised by them, no rent or toll being payable for such use. The travelling public shall also have free use of all these roads subject to security restrictions in the project area.

13. Notwithstanding anything herein contained the Government of Tamil Nadu shall have the right for use of the land situated within the State of Kerala and given on licence to them only for the purpose of execution and maintenance and operation of the Parambikulam Aliyar Project and for no other purpose.

14. On completion of the construction phase of each component of the project, all roads in the concerned project area situated within the Kerala State shall be taken over for control and maintenance by the Government of Kerala. No compensation is payable to the Government of Tamil Nadu for the construction of these roads or their maintenance till then. The Officers and nominees of the Government of Tamil Nadu shall have free use of all roads in Kerala territory in Parambikulam Aliyar Project for their departmental or other vehicles authorised by them no rent or toll being payable for such use.

15. The Government of Kerala shall be permitted free use of all existing roads in the Anamalayar and Nirar catchments in Tamil Nadu for the plying of vehicles and other normal use in connection with the investigation, execution, maintenance and operation of projects in the Periyar system, no rent or toll being payable for such use.

16. The Officers and nominees of the Government of Kerala shall have free use of all the roads in the Parambikulam Aliyar Project in Tamil Nadu territory for their departmental or for other vehicles authorised by them, no rent or toll being payable for such use.

17. The Government of Tamil Nadu shall be liable to pay compensation to the Government of Kerala for the use and enjoyment of land and other amenities within the State of Kerala and for the damages that might be caused to the improvements in the land so used and enjoyed, such as roads, forests, buildings, Hillmen settlement etc., in connection with the execution of the works.

SCHEDULE-V
(See PARAGRAPH 5(a) (iv) OF THE AGREEMENT)
CONSTITUTION, FUNCTIONS AND POWERS OF THE JOINT WATER
REGULATION BOARD FOR THE PARAMBIKULAM ALIYAR PROJECT
SYSTEM

Constitution

1. 1) The Joint Water Regulation Board (hereinafter referred to as the Board) referred to in paragraph 5(a) (iv) of the Agreement will be constituted with effect from the 1st June, 1970.
- 2) The Board shall consist of:
 - i) The Chief Engineer (Irrigation), Kerala.
 - ii) The Chief Engineer in charge of Parambikulam Aliyar Project, Tamil Nadu.
 - iii) A representative of the Kerala State Electricity Board, not below the rank of a Chief Engineer.
 - iv) A representative of the Tamil Nadu Electricity Board, not below the rank of a Chief Engineer.
- 3) The Chief Engineer (Irrigation) Kerala and the Chief Engineer in charge of Parambikulam Aliyar Project, Tamil Nadu shall function as the Chairman of the Board every alternate year. The Chief Engineer (Irrigation), Kerala will be the first Chairman of the Board. He will hold office for one year from the date of formation of the Board. Thereafter, the Chief Engineer in charge of Parambikulam Aliyar Project, Tamil Nadu and the Chief Engineer (Irrigation), Kerala will function as Chairman alternately each year.

Powers and Functions

- 2.(a) The Board shall be responsible for the proper regulation of waters collected and distributed through the Anamalayar, the Nirar Weir, the lower Nirar Reservoir, the Tamil Nadu Sholayar and the Kerala Sholayar, the Parambikulam, the Tunacadavu, the Peruvuripallam, the Aliyar reservoirs and the Manakadavu Weir, in accordance with this agreement.
- (b) The Board will also arrange to measure the discharges from the Aliyar catchment intercepted by the contour Canal leading to the Tirumurthi Reservoir.
3. THE BOARD WILL:
 - a) Arrange with immediate effect joint gauging of all the rivers concerned and ascertain in detail and separately the yield and run off.
 - b) Decide on the manner and details of withdrawals of water from the above-mentioned reservoirs/weirs, in accordance with the terms of the agreement.
 - c) Implement the decisions so arrived at through the Chief Engineer concerned.
 - d) Determine the actual quantum of water withdrawn from each of the above-mentioned sites at periodical intervals.
 - e) Receive fortnightly accounts of water Regulation from the officers concerned.

- f) Frame suitable regulations for the operation of surplus gates wherever they are installed in a manner which will ensure, the safety of the structure and at the same time prevent damages and danger to structures located downstream, and also arrange to frame suitable rules for flood warnings. If there should be failure in taking adequate precautionary measures and giving timely intimation, the Board shall immediately conduct an enquiry and make a report to the two Governments.
- g) Any other matter incidental to the above as may be referred to the Board by the two Governments.

4. Meetings of the Board

The Board shall meet each year as often as possible and decide on a judicious management of waters in accordance with the provisions of this agreement.

Provided, however, it shall meet (a) one month prior to the commencement of each irrigation season in the areas benefited by the project in the respective States to decide upon the pattern of regulation of waters, and (b) two weeks after the closure of the season, and review the availability of water in the entire group of reservoirs to decide on the manner of operation of the entire system for the next irrigation season, taking into account carry over storages.

5. Communication of Decisions and their Implementation

It shall be the duty of the Chairman to communicate the decisions of the Board to the Chief Engineers concerned. The Chief Engineers concerned shall implement the same without delay.

6. Disagreement to be Reported to Governments

- a) If there is any disagreement between the members of the Board on any matter within the purview of the Board, the Chairman of the Board shall report the matter to the Governments of Tamil Nadu and Kerala at the earliest, and in any case within a week, with a detailed note explaining the facts of the case the view points expressed by the representatives of both the States and the points of disagreement. He shall also be at liberty to record his recommendations in the matter.
- b) Upon receiving such a report, the two Government shall, as soon as may be, discuss the matter and arrive at a settlement.

ANNEXURE-I

STATEMENT OF FORTNIGHTLY WATER REQUIREMENTS IN MILLION CUBIC FEET FOR
CHITTURPUZHA LANDS IN
KERALA

Sl. No.	Particulars	January		February		March		April		May		June		July		August		September		October		November		December	
		1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd
1.	Varathuvitha	60	60	90	90	240	240	..	..	..	..	120	100	..	..	..	..	..	..	..	..	..	..	..	..
2.	1st crop	..	..	..	..	..	..	..	..	..	..	290	217	176	126	122	150	50	..	..	..	..	..	..	..
3.	2nd crop	606	404	...	..	..	..	..	..	..	..	..	..	..	..	101	101	505	707	707	404	202	303	404	606
	Total rounded	670	470	100	100	240	240	..	..	..	..	400	320	180	130	250	160	510	700	700	410	210	310	410	610
		Total - 7250 M.cft.																							
Average discharge in cusecs during fortnight		500	350	80	80	180	180	..	..	..	..	300	250	142	100	100	200	120	400	540	300	160	240	320	440

ANNEXURE-II

TERMS AND CONDITIONS ON WHICH THE KERALA LANDS ARE
TO BE MADE AVAILABLE FOR THE PARAMBIKULAM ALIYAR
PROJECT OF TAMIL NADU

1. The Government of Tamil Nadu shall be treated as licensee, in respect of all the lands made available to them for the use of the Parambikulam Aliyar Project, the lands vesting in the Government of Kerala.
2. The terms of the licence shall cover the uses which are specifically agreed to in this Agreement between the Governments of Tamil Nadu and Kerala in respect of the Parambikulam Aliyar Project.
3. The Government of Tamil Nadu shall pay the full compensation for the lands to be acquired by the Government of Kerala and also the value of the lands at the disposal of the Government of Kerala which are made available to the Government of Tamil Nadu. Where the compensation awarded under the Land Acquisition Act includes the value of trees, the Government of Tamil Nadu shall be allowed the use of those trees.
4. The Government of Tamil Nadu shall, in respect of all the lands made available to them, pay as licence fees, lands revenue at the rate prevailing in Kerala State from time to time subject to a minimum of Rupees two per acre.
5. The compensation for the Kerala Government Forests made available to the Government of Tamil Nadu for the use of the Parambikulam Aliyar Project shall be in accordance with the terms and conditions of this agreement and the recommendations made by the Joint Team of Officers of the Government of Kerala and Tamil Nadu, on 12th August 1965 and agreed to by both the Governments.
6. The Government of Tamil Nadu shall hold on payment of a licence fee at the rate specified in paragraph 4 above those lands made available by the Government of Kerala for the permanent use of reservoirs, dams and appurtenant structures relating to Parambikulam Aliyar Project.
7. The Government of Tamil Nadu shall hold temporarily and on payment to the Government of Kerala the licence fee at the rate specified in paragraph 4 above, such of those lands acquired at the cost of the Government of Tamil Nadu and made available for temporary use to them and also other forest lands made available for temporary use in connection with the construction of the Parambikulam Aliyar Project. As soon as the actual construction of each component of the Project is completed, the Government of Tamil Nadu shall hand over to the Government of Kerala those lands with the buildings thereon and the Government of Kerala will be entitled to take possession of them and deal with them in such manner as they deem fit and no compensation of any kind shall be payable to the Government of Tamil Nadu by the Government of Kerala for those lands. Compensation will be paid by the Government of Kerala for the buildings constructed by the Government of Tamil Nadu and taken over by the Government of Kerala. Buildings not required by the Government of Kerala may be disposed off by the Government of Tamil Nadu and the land handed over.

In witness whereof Thiru K.S. Sivasubrahmanyam, Secretary to Government of Tamil Nadu, Public Works Department acting for and on behalf of and by order and direction of the Governor of Tamil Nadu and Sri K.P. Viswanathan Nair, Secretary to the Government of Kerala, Water and Power Department acting for and on behalf of and by order and direction of the Governor of Kerala hereunto set their hands.

K.S. Sivasubrahmanyam,
Signed by the abovenamed
in the presence of

K.P. Viswanathan Nair,
Signed by the abovenamed
in the presence of

1) Thiru R. RAMASUBRAMANIAM,
Secretary to the Government of
Tamil Nadu, Law Department

1) Sri R. GOPALASWAMY,
Secretary to the Government of Kerala,
Public Works Department.

2) Thiru G. Jas
Joint Secretary to the
Government of Tamil Nadu
Public Works Department.

2) Sri P. SANKUNNI MENON,
Secretary to the Government
of Kerala Law Department