

By e-mail



ENVIRONMENT, CLIMATE CHANGE  
& FOREST (FR.10) DEPARTMENT,  
SECRETARIAT, CHENNAI 9.

Letter No. 14151/FR.10/2022 - 2, dated 17.02.2023

From  
Thiru.T.Ritto Cyriac, I.F.S.,  
Special Secretary (Forests).

To  
✓ The Principal Chief Conservator of Forests  
(Head of Forest Force),  
Chennai – 32. (w.e)

Sir,

Sub: Forests - Forest (Conservation) Act, 1980 – Vellore Circle / Tiruvannamalai forest Division – Proposal (No.FP/TN/IRRIG/118339/2021) for diversion of 0.90 Ha of forest land in Pennaiyar Reserved Forest in Tiruvannamalai Forest Division area for construction of fuse plug pertaining to Thandampattu Taluk of Tiruvannamalai District for discharge of heavy floods from Sathanur Reservoir in Tiruvannamalai District in favour of Assistant Executive Engineer, PWD Sathanur Dam, Tiruvannamalai District – Site inspection report – Reply / Comments – called for – Regarding.

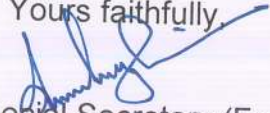
- Ref:
1. From the Principal Chief Conservator of Forests (Head of Forest Force), letter No.TS3/1022/2021, dated 03.08.2022.
  2. Government letter No. 14151/FR.10/2022-1, dated 30.09.2022.
  3. From the Deputy Inspector General of Forests (Central), Government of India, Ministry of Environment, Forests & Climate Change, Integrated Regional Office (South Eastern Zone), Chennai Letter No.4-TNB097/2022-CHN/118, dated 27.1.2023.

=====

I am directed to enclose a copy of the letter 3<sup>rd</sup> cited along with its enclosure, wherein the Deputy Inspector General of Forests (Central), Government of India, Ministry of Environment, Forests & Climate Change, Integrated Regional Office, Chennai has furnished the site inspection report and requested to furnish the suitable reply / comments on the issues raised in the site inspection report, for further consideration of project.

2. I am, therefore to request you to send your reply / comments on the observations / recommendations made in the site inspection report furnished by the Government of India in the reference 3<sup>rd</sup> cited to this Government, for onward transmission of the same to the Government of India, immediately.

Yours faithfully,

  
for Special Secretary (Forests)

21/3/23



10  
P.O. 14/51/2022

ச.கா.ம. (ம) வ.கூலம்  
4022254  
30 JAN 2023  
அஞ்சல்

-121-

भारतसरकार  
GOVERNMENT OF INDIA

पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय  
MINISTRY OF ENVIRONMENT, FORESTS & CLIMATE CHANGE  
Integrated Regional Office (South Eastern Zone),  
1st floor, Additional Office Block for GPOA, Shastri Bhawan,  
Haddows Road, Nungambakkam, Chennai - 600006,, Tel. 044-222041,  
e-mail: [ro.moefccc@gov.in](mailto:ro.moefccc@gov.in) / [roefccc@gmail.com](mailto:roefccc@gmail.com)

4-TNB097/2022-UBW/118

Chennai, dated 18<sup>th</sup> January 2023

To

The Additional Chief Secretary to the Government of Tamil Nadu,  
Environment & Forests Department,  
Secretariat, Fort St. George,  
Chennai-600 009.

Sub: Diversion of 0.90 ha of forest land in Pennaiyar RF in Tiruvannamalai Forest Division area for construction of fuse plug pertaining to Thandampattu Taluk of Tiruvannamalai District for discharge of heavy floods from Sathanur Reservoir in Tiruvannamalai District in favour of Assistant Executive Engineer, PWD, Sathanur Dam, Tiruvannamalai District.

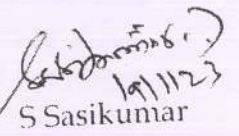
Ref: Site Inspection report submitted by DIF Forests, central, IRO, Chennai and Proposal No: FP/TN/IRRIG/118339/2021

Sir,

Please find herewith a copy of the site inspection report carried out on the subject and reference, as mentioned above.

In this connection, I am directed to request you that a reply/comment on the issues raised in the report may kindly be submitted to us for further consideration of the project.

Yours faithfully,

  
S Sasikumar

Deputy Inspector General of Forests (Central)

Copy for information to:

1. The Principal Chief Conservator of Forests, Govt. of Tamil Nadu, Forest Department, Guindy Velachery Main Road, Guindy, Chennai - 32

-122-

Site Inspection Report of S Sasikumar IFS, Deputy Inspector General of  
Forests (Central), Integrated Regional Office, Chennai

Date of Site Inspection: 3<sup>rd</sup> January 2023

Proposal No: FP/TN/IRRIG/118339/2021

**Name of the Project:** Diversion of 0.90 ha of forest land in Pennaiyar RF in Tiruvannamalai Forest Division area for construction of fuse plug pertaining to Thandarampattu Taluk of Tiruvannamalai District for discharge of heavy floods from Sathanur Reservoir in Tiruvannamalai District in favour of Assistant Executive Engineer, PWD, Sathanur Dam, Tiruvannamalai District.

**Purpose of the project:** Construction of fuse plug pertaining to Thandarampattu Taluk of Tiruvannamalai District for discharge of heavy floods from Sathanur Reservoir in Tiruvannamalai District

**Purpose of site Inspection:**

The Tamil Nadu State Government vide proposal No. FP/TN/IRRIG/118339/2021 forwarded the subject proposal to the IRO Chennai and requested to consider and to convey the GoI approval under FCA, 1980. Upon examination of the proposal, the IRO opined that clarity is required on certain issues i.e. the actual number of trees to be felled, impact of the project on RF i.e. likely submergence, actual boundary of the forest area, status of obtaining of approval from Hon'ble Supreme Court of India / CEC for felling of trees of spontaneous origin etc. Accordingly, the, IRO Chennai vide letter dated 18.11.2022, requested the User Agency to make a detailed power point presentation on the subject project at IRO Chennai on 21.11.2022 at 11:30;

As requested, the representatives of the User Agency attended the review meeting held on 21.11.2022 and upon instruction of the DDG (central), IRO Chennai, the User Agency made presentation on the project and briefed about entire Sathanur Reservoir Project and informed that, as per the Dam Safety Review Panel (DSRP) recommendation to disposing of water during probable Maximum Flood, the construction of **Fuse Plug** is required to prevent overtopping of the dam and safety of the dam. Since the proposed fuse Plug is falling in forest area, for which subject proposal been submitted for prior approval of GoI under FCA, 1980.

The DDG(Central) enquired about existing spillway / saddle and its discharging capacity. The User Agency provided the details of existing spillway / saddle and its discharging capacity and apprised on necessity of Fuse Plug.

Upon examination of the facts put forth by the User Agency, the IRO Chennai enquired the User Agency to brief on the actual number of trees to be felled, impact of the project on RF i.e. likely submergence, actual boundary of the forest area, status of obtaining of approval from Hon'ble Supreme Court of India / CEC for felling of trees of spontaneous origin etc. During the meeting, the kml file of the proposed project site was reviewed and noted the following;

- 123-
- (i) In case of overflow of the water above proposed fuse plug, the water required to be channelized through Reserve Forest;
  - (ii) To connect such overflow water to the main stream, the exclusive canal over length of 3 km may be required to be constructed freshly, for which more forest area may require to be diverted;
  - (iii) The Submergence may be happened due to increasing height by constructing proposed fuse plug;
  - (iv) More trees (including spontaneous origin) may require to be felled;
  - (v) Other issues like, the proposal may require catchment area treatment (CAT) plan may be required;
  - (vi) As there are residential colony / road etc existing at lower altitude from the proposed fuse plug, likely impact due to the project needs to be examined;

After brief discussion with the representatives of the User Agency, it is decided to carryout site inspection by the Officer(s) of the IRO Chennai to ascertain the nature of the proposal and to address observations noted above.

#### Officers present during the inspection:

Accordingly, I have inspected the site on 03.01.2023, during the site inspection Shri. Arunlal, IFS, District Forest Officer, Thiruvannamalai Division, Shri. Palaniswamy, Range Officer, Sathanur range, Shri. Arivazhagan, Assistant Executive Engineer, Sathanur Sub Division, Sathanur dam and, Shri. Rajesh, Assistant Engineer, Sathanur Dam were present during the inspection.

#### Proposal background:

#### HISTORY OF SATHANUR RESERVOIR

The Ponnaiyar river originates on the south eastern slopes of Chennakesava Hills, North west of Nandidurg in Karnataka State at an altitude of 1000 m. above MSL. The river is called Dakshina pinakine in Karnataka state. After flowing through Karnataka, the river enters Tamil Nadu near Bagalur village of Hosur taluk and takes the name of Ponnaiyar. Ponnaiyar river basin is sandwiched between Cauvery River basin at its west and south and Palar and Varahanadhi basins at its east and north. The basin is located within the geographical co-ordinates North Latitude 100 45' and 130 14' and East Longitude 770 45' and 790 45". The total area of the basin is 11,441 sq km. including the area under Union Territory of Pondicherry (90 sq km)

The main tributaries of Ponnaiyar river are Chinnar I, Chinnar II, Markandanadhi, Kambainallur, Pambar, Vaniyar, Kottapatti, Kallar, Vayalar Odai, Ramakal, Pambanar, Aliyar, Mushkundanadhi, and Thurinjilar.

The major anicuts are Nedungal Anaicut, Kumarapatti Anaicut, Ichambadi Anaicut, Sathanur Pickup Anaicut, Tirukoilur Anaicut, Ellis Choultry Anaicut and Sornavur Anaicut. In addition to this 152 minor anicuts and about 66 open offtake channels are also available in this basin.

The total length of Ponnaiyar River is 432 kms. of which 112 kms. lies in Karnataka state, 180 kms. in Dharmapuri, Krishnagiri & Salem districts, 34 kms. in Thiruvannamalai

- |     |                            |  |
|-----|----------------------------|--|
| 10. | Capacity of Reservoir      | : 7321 M.Cft. ( 207.30 M M <sup>3</sup> )          |
| 11. | Water spread area          | : 4500 Acres ( 1821.86 Ha )                        |
| 12. | Catchment area             | : 4180 Sq.miles ( 10825.78 Sq Km )                 |
| 13. | Maximum Flood Discharge:   | 2,00,000C/s ( 5663.31 m <sup>3</sup> / sec )       |
| 14. | River sluices              | : 8,492 Cusecs ( 240.46 m <sup>3</sup> / sec )     |
| 15. | Spillway                   | : 1,15,900 Cusecs ( 3281.89 m <sup>3</sup> / sec ) |
| 16. | Saddle vents               | : 75,608 Cusecs ( 2140.96 m <sup>3</sup> /sec )    |
| 17. | Total length of Dam        | : 2558 Ft (or) 780 M                               |
| 18. | Length of the Masonry Dam: | 1373 Ft (or) 419 M                                 |
| 19. | Length of Earth Dam        | : 1185 Ft (or) 361 M                               |
| 20. | Dead storage               | : 310 Mcft ( 8.78 MM <sup>3</sup> )                |

### RIVER SLUICE

- |    |                       |   |
|----|-----------------------|---|
| 1. | No. of Vents          | : 5 Nos.                                      |
| 2. | Size of Vents         | : 5' x 6' ( 1.52 m x 1.83 m )                 |
| 3. | Maximum Discharge     | : 8492 Cusecs ( 240.46 m <sup>3</sup> / sec ) |
| 4. | Sill of River sluices | : +610.00Ft ( +185.930 )                      |

### SPILLWAY

- |    |                   |  |
|----|-------------------|--|
| 1. | No. of Vents      | : 9 Nos.   |
| 2. | Size of Vents     | : 40' x 20' ( 12.19 m x 6.10 m )                   |
| 3. | Maximum Discharge | : 1,15,900 Cusecs ( 3281.89 m <sup>3</sup> / sec ) |
| 4. | Crest of Spillway | : +709.00Ft ( + 216.100 )                          |

### SADDLE

- |    |  |  |
|----|--|--|
| 1. | Length of the Masonry work between abutments | : 530 Ft. ( 161.54 m )                         |
| 2. | Maximum height of Masonry above foundation.  | : 55 Ft. ( 16.76 m )                           |
| 3. | Saddle sill level                            | : +714.00 ( + 217.630 )                        |
| 4. | No. of Vents                                 | : 11 Nos.                                      |
| 5. | Size of vents                                | : 40' x 15' ( 12.19 m x 4.57 m )               |
| 6. | Maximum Discharge                            | : 75608 Cusecs ( 2140.96 m <sup>3</sup> /sec ) |

### ADDITIONAL SPILLWAY OF SATHANUR DAM

- |     |   |                              |
|-----|---|------------------------------|
| 1.  | Length of Masonry work between abutments  | : 161.700 M                  |
| 2.  | Number of Vents with size                 | : 11 Vents of 12.20m x 4.57m |
| 3.  | Designed flood discharge                  | : 4255 M <sup>3</sup> /Sec   |
| 4.  | Foundation level                          | : +216.000 M                 |
| 5.  | Bed level                                 | : +217.000 M                 |
| 6.  | Sill of additional spillway (Crest Level) | : +217.630 M                 |
| 7.  | F.R.L.                                    | : +222.200 M                 |
| 8.  | M.W.L.                                    | : +224.640 M                 |
| 9.  | Top of Road way                           | : +226.400 M                 |
| 10. | Top of Hoist Bridge platform.             | : +233.000 M                 |

Field Observations:

During the inspection, the authorities from Sathanur Sub Division has appraised the importance of having Fuse plug in case of having Probable Maximum Flood (PMF). It is informed that the present spillway, saddle and other outlets are not sufficient to dispose of the **PROBABLE MAXIMUM FLOOD (PMF)** value of 21181 m<sup>3</sup> /Sec. (748000 Cusecs). The undersigned has visited the proposed site for having Fuse plug, the existing spill ways, saddle and other outlets. Photos showing the filed visit is submitted here for information as **annexure-I**

- The Dam Safety Review Panel Team visited Sathanur Dam during 29th January 2020, and the team recommended to accommodate the Probable Maximum Flood (PMF), suitable surplus sing arrangements may be provided. Copy of the report is attached as **annexure-II**.
- Based on dam safety Review Panel (DSRP) recommendation, Rs.586.94 Lakhs was awarded vide G.O.NO.187/PW (WRI) DEPT /Date.10.08.2020.
- Based on the DSRP Recommendation, the revised Flood Routing Study has been conducted by Designs Circle, Chennai and suggested that the PMF of the dam is quite high than its discharging capacity in spite of the saddle and spillway provided.
- The area required to construct the Fuse plug is about 0.99 Ha (i.e.) for a length of 425m and the same was under the control of Forest Department.

During the visit, it is seen that the dam is at full reservoir level (FRL). The water is seen to be leaking out of the dam through the natural gradient from the proposed site for construction of Fuse Plug. Photos showing the spill of water from the dam is submitted as **annexure-III**. And it is also seen that the water is being overflowing from the existing spillway, saddle and other outlets. At present there is no proposal from the User Agency to construct any channel to divert or connect this excess water to the main river. If it is allowed to go through the natural gradient and also through the existing walk way, it might cause huge damage to the trees present in the RF area. We may have to seek opinion from the State Government on this issue of excess water causing damage to the existing trees in the RF area. There is no contingency plan either proposed or submitted along with the proposal.

After through discussion with the forest officials and the authorities from Sathanur Sub Division, Sathanur dam, it is understood that in case of overflow of the water above proposed fuse plug, the water required to be channelized through Reserve Forest only, especially in the existing natural gradient. The area is being used as walk way to reach out to this proposed site. If channel needs to be constructed to connect with main river, more area needs to be diverted. As such no mention about this point, in the submitted proposal.

It is also seen that to connect such overflow water to the main stream, as such no canal can be constructed freshly, since, in the event of Probable Maximum Flood, where in around value of 21181 m<sup>3</sup> /Sec. (748000 Cusecs) of water would be expected to be discharged. It is very difficult to regulate such a huge volume of discharge. A tentative

-128-

pathway, worked out based on the gradient, through which the excess water is expected to be discharged is shown on Google map is submitted as **annexure-IV**. The area which is going to be affected due to this voluminous discharge needs to be worked out and the expected damage to the trees in RF need to be worked out.

It is discussed and understood that no submergence has happened at this FRL. However, **what would happen at PMF, needs to be studied**. It is said that the structure of fuse plug would be made up of sand, gravel and a few portions only RCC. The diagram showing the cross section of RCC is submitted as **annexure-V**.

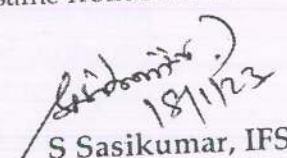
It is seen that only 71 no. of spontaneously grown trees are to be felled as per the field visit and information from local forest officials. However, felling, which will happen only after getting due permission from CEC appointed by Hon'ble Supreme Court, need to be undertaken under the supervision of DFO, Thiruvannamalai.

There is no residential complex present nearby especially in and around the site proposed for making Fuse Plug. However, the major impact due to the unexpected Probable maximum Flood is difficult to ascertain now. No mention or undertaking from User Agency could be seen with the proposal.

During the visit, the undersigned has visited the area proposed for compensatory afforestation at Pinjur-C block RF under Thiruvannamalai Division. The GPS reading with map of the proposed site along with field inspection photos submitted as **annexure-VI**.

### Recommendation:

1. Diversion of 0.90 ha of forest land in Pennaiyar RF in Tiruvannamalai Forest Division area for construction of fuse plug pertaining to Thandarampattu Taluk of Tiruvannamalai District for discharge of heavy floods from Sathanur Reservoir in Tiruvannamalai District in favour of Assistant Executive Engineer, PWD, Sathanur Dam, Tiruvannamalai District is required considering the importance of the project for ensuring safety of the reservoir and adjacent areas from excess floods and the safety of the public at large. However, some of the issues mentioned above need to be clarified by State Forest Department. It is submitted that we may send the same to State Forest Department/TN for getting their comments before further processing.
2. The proposal may require Catchment area treatment plan, as observed from the field visit. At present the proposal does not have any CAT plan. We may seek the same from State Forest Department, if required.

  
S Sasikumar, IFS  
Deputy Inspector General of Forests, Central  
MOEF and CC, IRO, Chennai  
18.1.2023



**Annexure-I**



**The proposed site of Fuse plug where in FRL is seen in full capacity**





Site Inspection with officials from Sathanur Dam and Forest Department





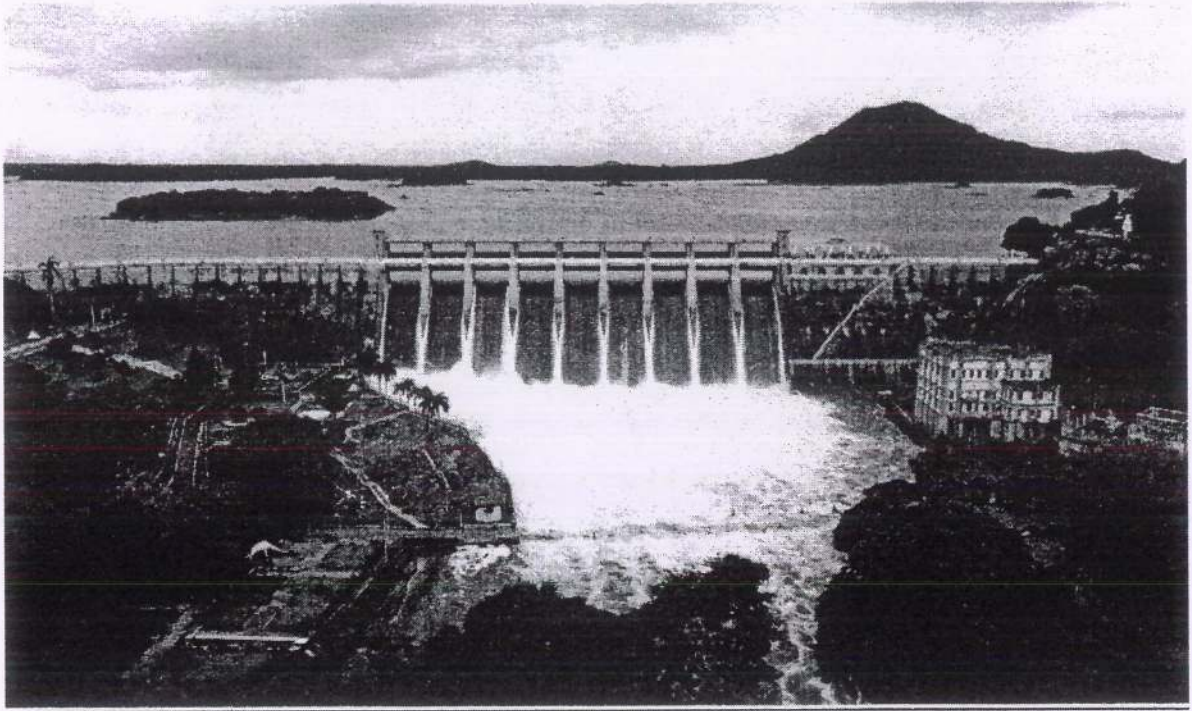
Vist to existing dam site where spillways, saddle and other outlets can be seen



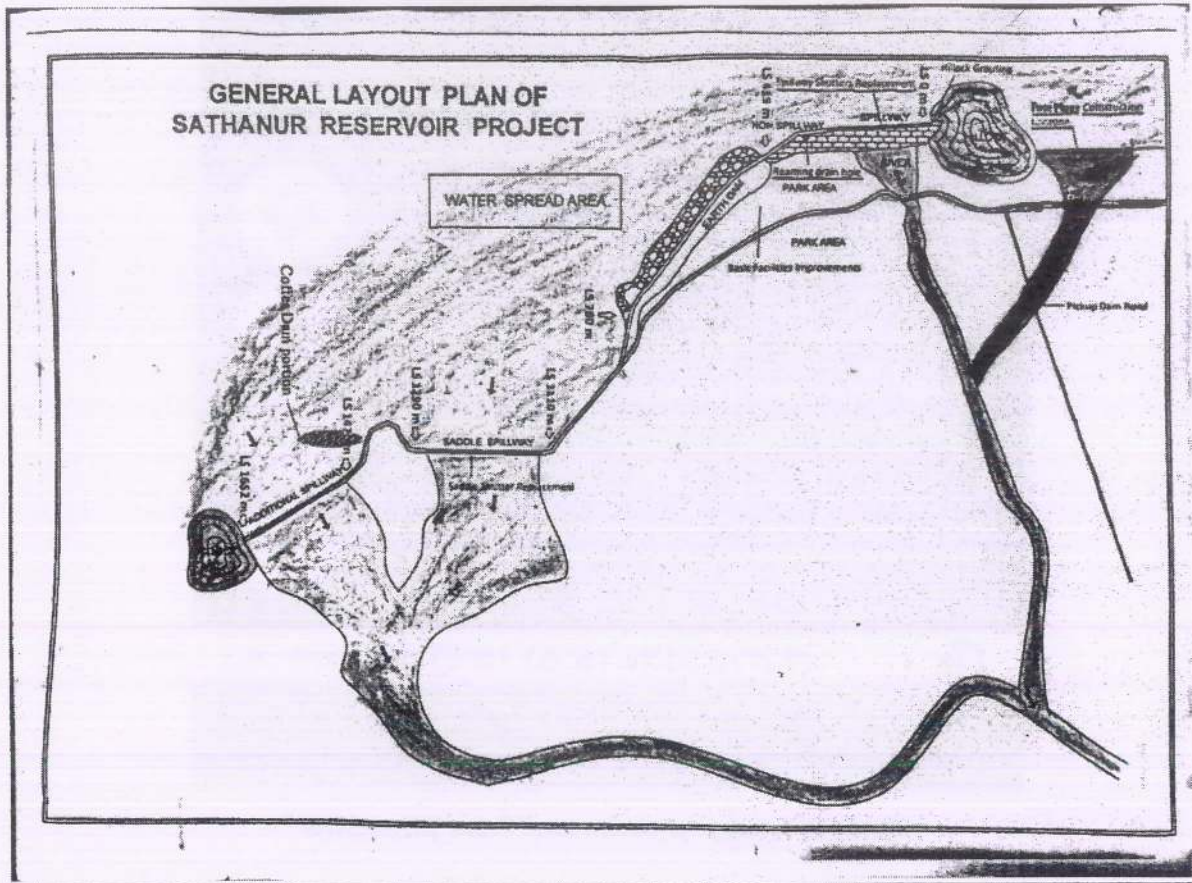




Google image of proposed Fuse Plug Site

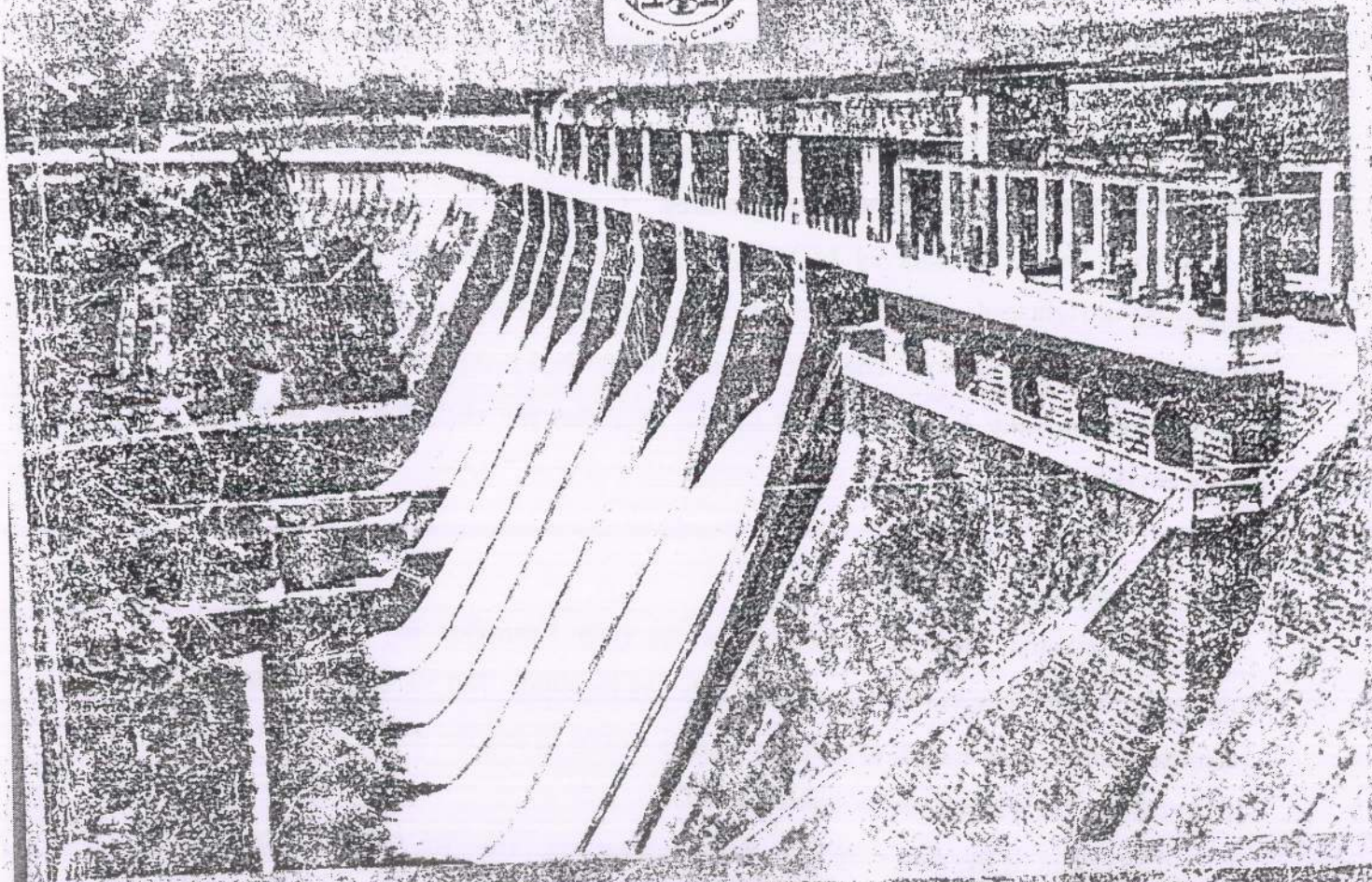


View of Sathanur Dam



Annexure - II

135



# Dam Safety Review Panel (DSRP) Inspection Report of SATHANUR DAM



Doc. No. DSRP-1/2020

JANUARY 2020

WATER RESOURCES DEPARTMENT

TAMIL NADU

-136-  
carry out in place protective measures.

Scouring due to removal of rock blocks are noticed just downstream of the ED arrangements of masonry dam and saddle spillway. Part of the end sill of the second stilling basin is found to be damaged due to under scouring. Recommended to study the scouring status and execution of remedial measures.

A rock ledge is observed to be present above the apron level of the ED arrangement of right end gates. Suggested to remove the rock ledge above apron level in order to facilitate smooth flow. The geology report is attached in Appendix E  
Seismic analysis may be carried out as per IS codes for checking the stability during earthquakes.

#### 4. Hydrological safety review :

The Sathanur Dam is constructed across river Pennaiyar in Tiruvannamalai District in Tamil Nadu at latitude of 12° 11' N and longitude 78° 50' E. The Dam is a composite Dam . The length of masonry Dam is 419.00 m and the length of earth Dam is 361.00 m. The Project was completed in 1958.

The height of the dam is 38.71 m from the river bed. The FRL / MWL of the dam is at an EL 222.20 m. The top of the dam is at an EL 224.64 m. The gross storage of capacity of the dam at FRL is 229.36 Mcum. The Catchment area of Sathanur River up to dam site is 10825.78 sq.km

The dam is classified as large dam as per BS11223-1985 criteria and hence the dam is qualified for PMF . The value of PMF is worked out as 21181 m<sup>3</sup> /s vide CWC letter No. DSRD/1033-1039 dated 01.08.2014.

The total discharging capacity of the spillway including the additional spillway and saddle spillway is 7562 m<sup>3</sup> /s. The river sluices have a discharging capacity of 240.47 m<sup>3</sup> /s. There is a less capacity of surplusing works by a quantum of 13619 m<sup>3</sup> /s.

Since the PMF is higher than the existing surplusing capacity, it is recommended to study the following alternatives for adoption.





- 137 -
1. Preparation of integrated flood management plan considering the flood absorbing capacity of the existing upstream two reservoirs and/or
  2. Provide surplusing works on either side of the dam and/or
  3. EAP (Emergency Action Plan) may be developed as per guidelines issued by CWC Government of India and put up into action for the extreme event along with dam break analysis.
  4. Combination of above or any other arrangement.

The approved reports of hydrology review study and flood routing study are appended in Appendix F.

#### 5 & 6 Issues in Dam and Appurtenant Structures

(Masonry / Earth Dams / Spillway)

##### a) Repairs and Renovation in Left Abutment Hillock portion

Seepage was noticed at the junction between masonry dam and hillock in the left abutment. The seepage was observed even in the skin wall provided at the downstream side which was already provided in DRIP I. The boulders in the hillock at downstream side were slipped here and there and seepage is found in that portion also. After inspection it is inferred that the seepage occurred at the left abutment contact the surface is due to presence of weathered rock in the contact surface.

Perusal of the drawings indicated that the top part of the dam has been abutted against partly to moderately weathered rock with spheroidal weathered seams.

The seepage is of moderately high flow type. It is informed by the project authorities that the issuance of seepage starts at the reservoir level of 210.97 m. it is also informed by the project engineers that the seepage was noticed to be through sub horizontally disposed weather joints. (Photo) The pH of reservoir water as well as the seepage water is found to be same. Based on the above it is inferred that the reservoir water through a moderately weathered seam and escape out on the hill slope downstream of the dam. The seepage water is in general clean without perceptible material carriage.

The total quantum of seepage measured was 74.99 lpm in 1993 at FRL got reduced to about 27.21 lpm in 2000. Since then the quantum of seepage at FRL shows increasing trend to a maximum of 131 lpm in 2016.

It is recommended to carryout consolidation grouting including the interface between the rock and the dam structure.

**b) Removal of Rock ledge**

A linear rock ledge is present across the lead channel of the additional spillway which was acting as a coffer to facilitate the construction of additional spillway is left unexcavated obstructing the flow to additional spillway. Part of the rock ledge is found to be above the FRL level obstructing the flow through the channel. In order to facilitate the smooth flow it is suggested to remove the rock ledge and the smoothen the channel.

**c) Surface drains on dam top**

Surface drains of suitable size and interval may be provided to drain the rainwater on the top of the masonry dam.

**d) Reaming the Porous drains in Masonry Dam**

Most of the porous drain in the body of the masonry dam are fully clogged with lime leachate. Hence it is essential for reaming the porous drains in body of the masonry dam for effective functioning.

**e) Water Quality Studies**

Provided water quality studies being generated by the Project authority may be assessed for its possible effect on components of masonry and other metallic parts.

**7. Hydro mechanical items**

**7.1 Replacement of Spillway Shutters and saddle spillway shutters.**

The Shutters in the spillway and Saddle spillway were made at the time of construction. It is reported by the Project authorities that the shutters are rusted at many places and parts are worn out. It is recommended to measure the thickness of main

- ❖ Additional Instruments as identified
- ❖ Replacement of Existing damaged quarters
- ❖ Improvements to Park
- ❖ Improvement to Approach Road to Pickup Anicut and Camp Area
- ❖ Provision of Electrical cables, Starters for Shutters and lightning arrester at dam site.
- ❖ Emergency Action Plan should be prepared and put it in place.

**16. CONCLUSION:**

The dam is performing fairly and safe. However a fuse plug of appropriate length may be provided at the earliest.

**17. IMPORTANT DOCUMENTS ANNEXED**

The following documents are attached :

- ❖ Government orders for Constitution of DSRP - Appendix A. & B
- ❖ List of TNWRD officers present during inspection - Appendix C.
- ❖ General index map of Sathanur Reservoir - Appendix D.
- ❖ Geological report of Sathanur Dam - Appendix E
- ❖ Hydrology Study Report - Appendix F
- ❖ Plan and cross-section of main dam - Appendix G
- ❖ Photographs taken during the visit- Appendix H
- ❖ Water quality Test Results - Appendix I
- ❖ DRIP - Phase I - DSRP Recommendation - Appendix J
- ❖ Extract of hillock portion seepage register - Appendix K

**18. PHOTOGRAPHS**

The photographs taken during the visit are enclosed in Appendix II.

**19. REFERNCES**

Guidelines issued for DSRP inspection by CWC

*R. Selvam*  
30/01/2020  
R. Selvam  
(Member)

*S. Rastham Ali*  
30/01/2020  
S. Rastham Ali,  
(Member)

*C. Thanavelu*  
30/01/2020  
C. Thanavelu  
(Member)

*Murari Ratnam*  
30/01/2020  
Murari Ratnam,  
(Member)

*Dr. B.K. Mittal*  
30/01/2020  
Dr. B.K. Mittal,  
(Chairman)

*V.K. Maini*  
30/01/2020  
V.K. Maini  
(Member)

-490-

Annexure-III

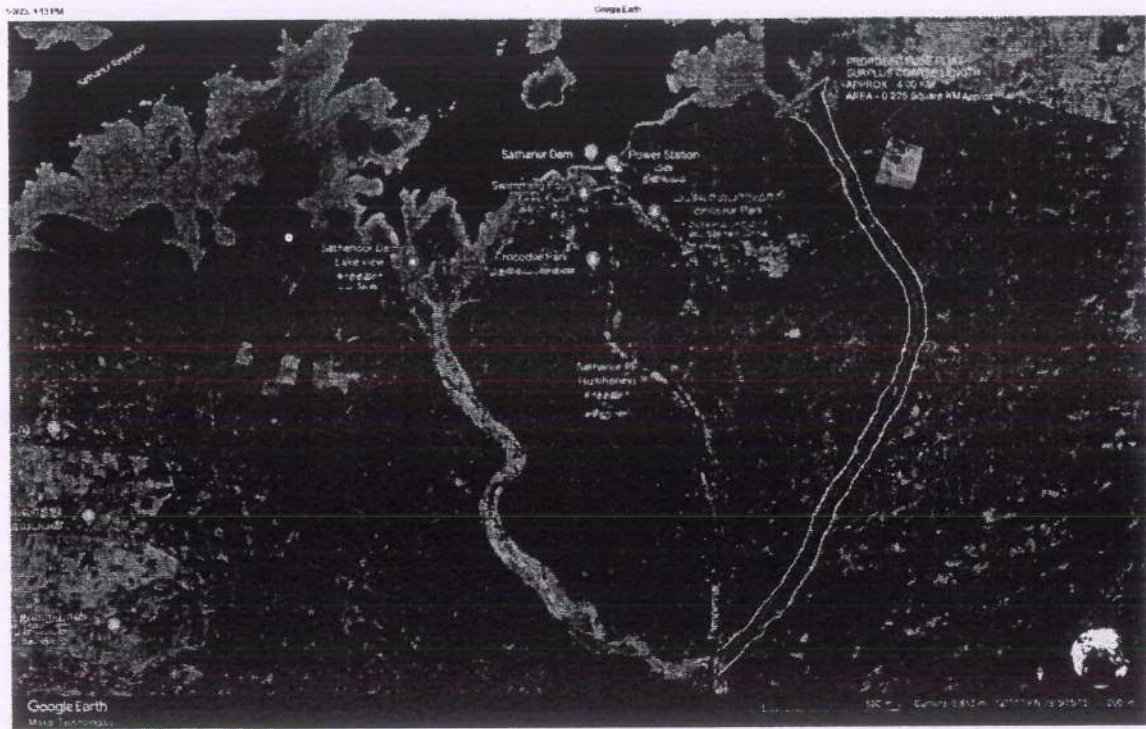


Water is at present over flowing from the propose fuse plug area. The dam is at full capacity

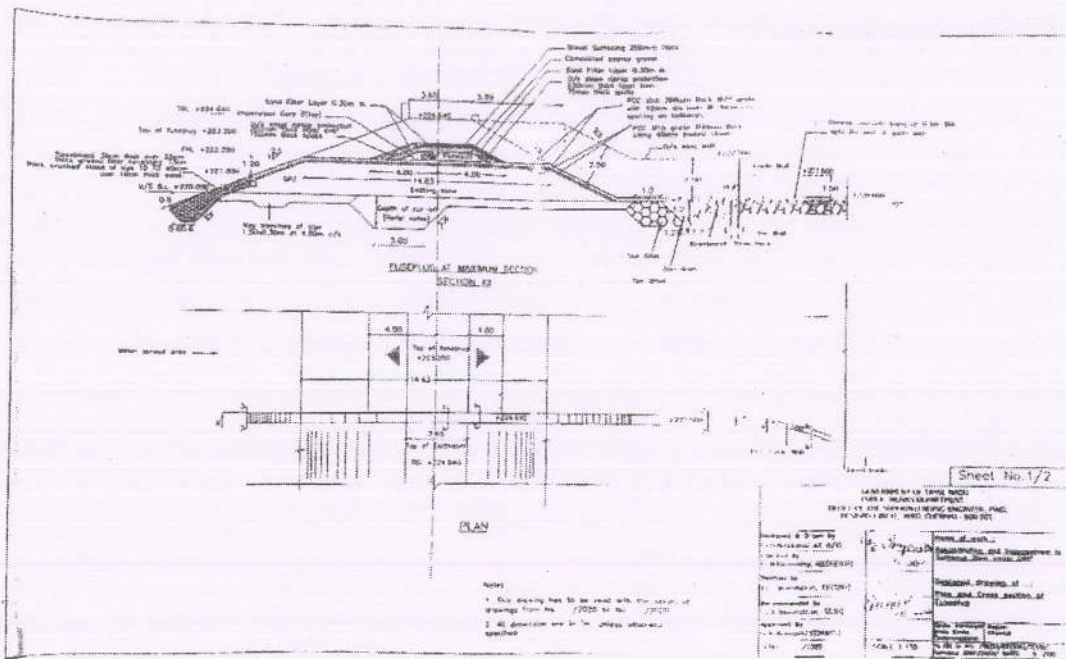
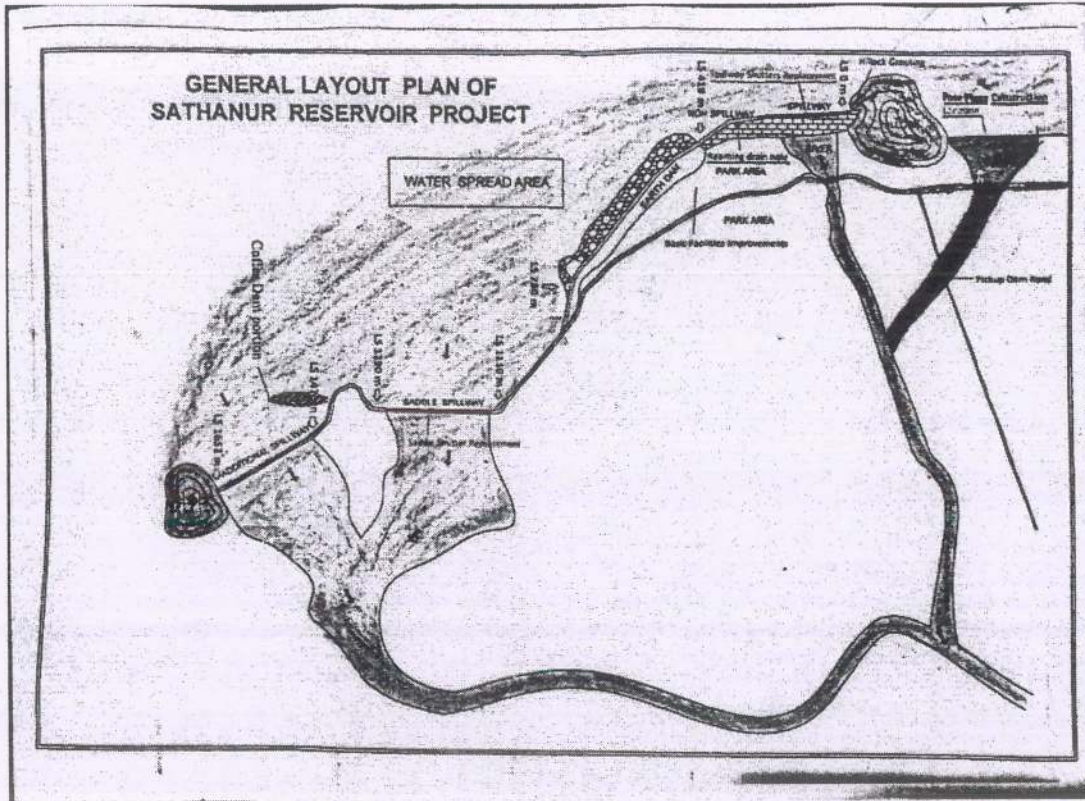


(24)

**Annexure-IV**



Map data © Google, contributors (2022); Imagery © 2022, DigitalGlobe, GeoEye, IGN, Aerogrid, AeroVision, Airphoto, Swire, CNES, Airbus, GeoEye



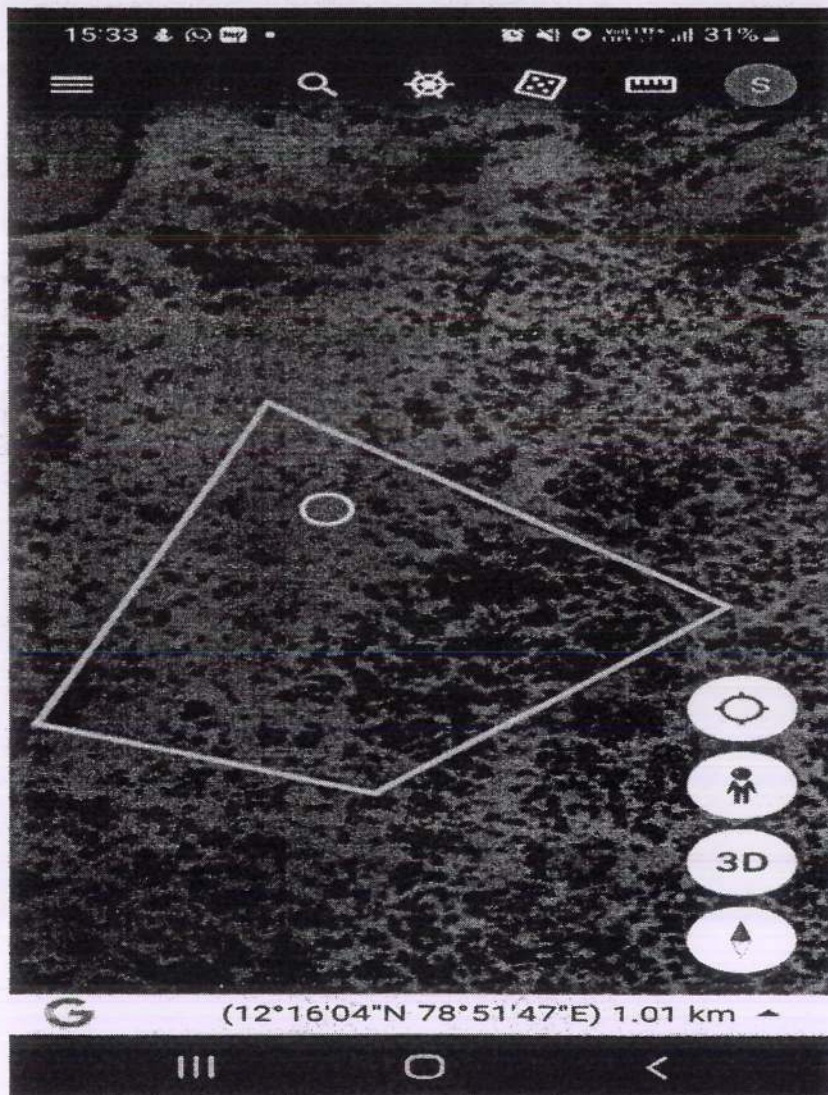
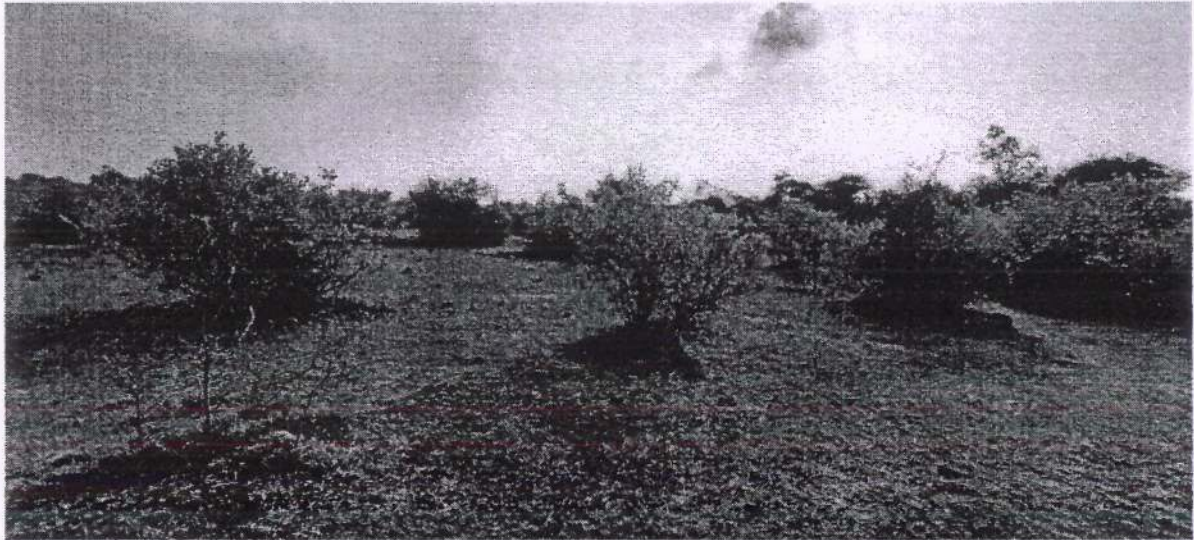
Annexure-VI

Visit to CA land at Pinjur-C block RF under Thiruvannamalai Division-

Area 1.80 ha



-144-

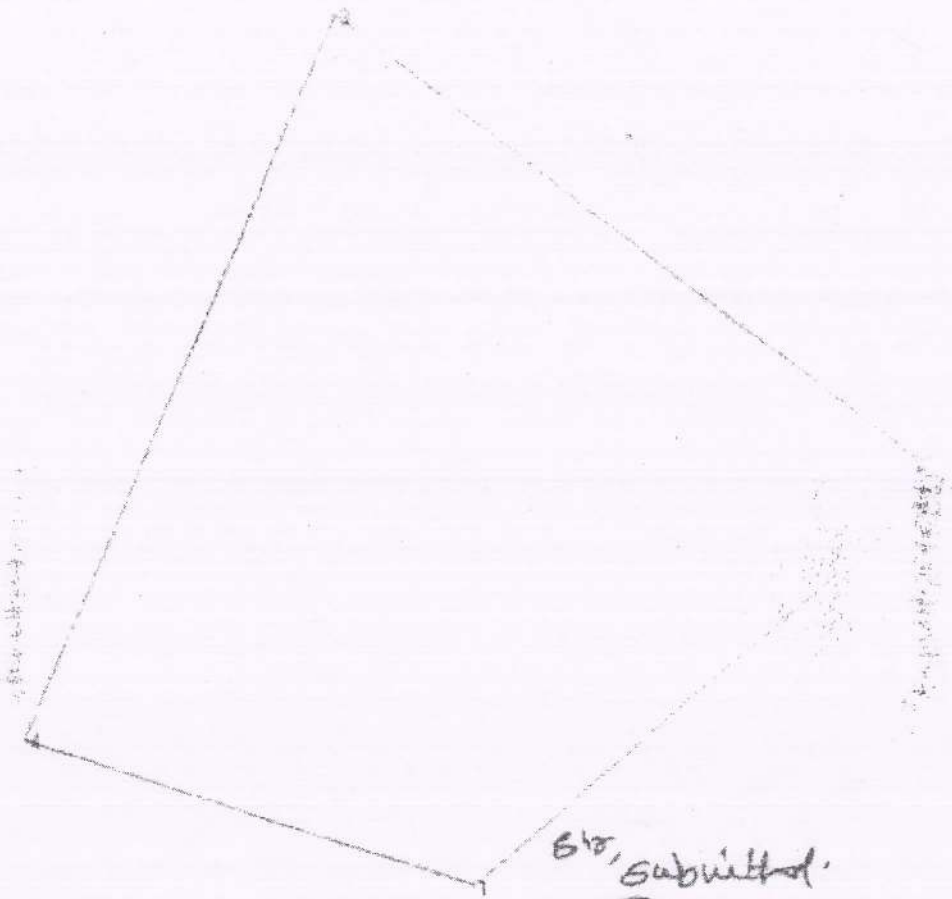


Google image of the proposed CA area



DEGRADED FOREST LAND IDENTIFIED AT PINJUR RF C-BLOCK OF  
CHENGAM RANGE IN TIRUVANNAMALAI DIVISION, TIRUVANNAMALAI  
DISTRICT

AREA: 1.80 HA



Slr, Submitted.  
M. [Signature]  
District Forest Officer,  
Tiruvannamalai Forest Division,  
Tiruvannamalai-606 601.

GPS READING:

SlNo	Latitude	Longitude
1	12.266840	78.862956
2	12.267614	78.863856
3	12.268469	78.862681
4	12.267128	78.862092

[Signature]  
District Forest Officer,  
Tiruvannamalai Forest Division,  
Tiruvannamalai-606 601.

