



# **INDUSTRIES DEPARTMENT**

## **MINES AND MINERALS**

### **POLICY NOTE 2022 - 2023**

**DEMAND No. 27**

**DURAIMURUGAN**  
Minister For Water Resources

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GOVERNMENT OF TAMIL NADU  
2022

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#### **CONTENTS**

<b>Sl. No.</b>	<b>Title</b>	<b>Pages</b>
1.	Department of Geology and Mining	1-42
2.	Tamil Nadu Minerals Limited	43-50
3.	Tamil Nadu Magnesite Limited	51-57

# **INDUSTRIES DEPARTMENT**

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#### **1. DEPARTMENT OF GEOLOGY AND MINING**

Minerals form the basic resources for several important industries and contribute substantially to the economy and to industrial growth. The developmental activities of the State and its economic prosperity are reflected by the availability of mineral wealth and its prudent and sustainable utilization.

Since, mineral resources are non-replenishable, it is imperative that the minerals should be scientifically mined and utilized with due emphasis on their conservation for posterity and as common resources, ensuring appropriate flow of revenue to the public exchequer.

Tamil Nadu is endowed with several industrial minerals like Lignite, Limestone, Garnet Sand, Silica Sand, Quartz and Feldspar, Graphite, Oil and Natural Gas, Magnesite, Iron Ore, etc., and also minor minerals including Black and Multi-Coloured Granite and common use minerals like rough stone etc.

District Survey Reports were prepared in all the districts and hosted on the district websites. The survey reports contain holistic information on minerals available in the district and would be useful for entrepreneurs for applying mining leases and for development of minerals.

For the welfare of the people in the areas affected due to mining activities, the Government is implementing a plethora of projects through the District Mineral Foundation Trust Fund in the sectors of infrastructure, education, drinking water, health, sanitation, welfare of the aged and

differently abled people, welfare of women and children, skill development, environment and pollution control and irrigation. A total of 2454 projects have been taken up at a cost of Rs.709.04 crore upto March, 2022.

The clandestine mining and transportation of minerals is a big challenge to the society. To stem this menace depriving the State from the revenue due to it, the Government has taken a series of stern measures, such as deployment of Drone technology, Mining Surveillance System, flying squads, etc.

Due to the concerted efforts of the State Government to act against illicit mining, the revenue from mineral resources, has gone up significantly from Rs.983 crore in 2020-21 to Rs.1179.21 crore upto March, 2022.

Exploration agencies including the Geological Survey of India (GSI), Mineral

Exploration Corporation Ltd., (MECL) and Kudremukh Iron Ore Corporation Limited (KIOCL) have submitted reports on availability of Limestone, Dunite, Iron ore, Graphite, Platinum Group of Elements (PGE), and Molybdenum.

Eight limestone mineral blocks and five composite license blocks to auction for the first time as per the provisions of Mines and Minerals (Development and Regulation) Amendment Act, 2015 is under process and the Government will get substantive revenue from the upfront payment to be received from the successful bidders.

This Government is also taking steps to bring the Granite bearing Government lands for auction to revive the Granite industries in the State.

## **1.1 Vision and Mission**

The vision of this department is “to consolidate the leadership position of Tamil Nadu in the management of the mineral wealth” and the mission is “To undertake / facilitate scientific exploration, optimal exploitation, judicious conservation and revenue maximization in industry, eco and a citizen friendly policy framework.”

## **1.2 The Objectives**

- i. Use of modern technologies in the exploration and mining of minerals in an eco-friendly basis.
- ii. Augmentation of revenue through effective and efficient administration of mineral wealth.
- iii. Generation of employment opportunities.
- iv. Prevention of illegal mining and transportation of minerals through

appropriate technological measures and through stringent action.

- v. Implementation of projects in the sectors of drinking water, health, welfare of women and child care, infrastructure, welfare of aged and differently abled, sanitation, environmental and pollution control, skill development, irrigation, watershed management for the welfare of the society in the mine affected area using District Mineral Foundation Trust Fund.

### **1.3 Functions**

- i. The Department has been carrying out exploration of new mineral deposits with the aid of the Geological Survey of India (GSI) and notified agencies such as Mineral Exploration Corporation Limited (MECL), Kudremukh Iron Ore Corporation Limited (KIOCL), Tamil Nadu Cements



Corporation Limited (TANCEM), Tamil Nadu Magnesite Limited (TANMAG) and Tamil Nadu Minerals Ltd (TAMIN).

- ii. Mineral Concessions are granted to public sector undertakings such as TAMIN, TANCEM, TANMAG, Neyveli Lignite Corporation India Limited (NLCIL), Indian Rare Earths (India) Limited and to private sector entities for the development of minerals. For this, royalty, surface right compensation and dead rent are being collected from the lessees of major minerals; seigniorage fee, dead rent, area assessment and annual brick mineral fee are being garnered from the lessees of minor minerals.
- iii. For effective control on the clandestine mining of minerals and its transportation, flying squads operating in Salem,

Villupuram, Tiruchirapalli and Madurai regions are routinely checking the mining areas and the vehicles transporting minerals.

- iv. The hill areas in Kodaikanal of Dindigul district and the Nilgiris district are prone to landslides triggered by rainfall during the monsoon. Geotechnical Cells in these districts have been mapping the hilly areas for identification of weak zones susceptible to landslides. The Geotechnical Cells suggest remedial measures to the district administration to mitigate natural hazards. The Geotechnical Cells are also process applications made by individuals and Government bodies and after examining the safety and suitability of the areas, offer technical feasibility assessment reports for construction activity in the hill areas.

**1.4 Details of Major and Minor Mineral Leases under operation are as follows:**

<b>Mineral</b>	<b>No. of Leases under operation</b>	<b>Extent (in Ha)</b>
<b>I. Major Minerals</b>		
1.Oil and Natural Gas	13	24378.00.0
2.Lignite	1	25900.00.0
3.Limestone	57	3380.96.0
4.Magnesite	2	80.28.5
5.Vermiculite	1	23.70.5
6. Graphite	1	237.39.5
7.Beach Sand Minerals	2	148.28.7
<b>Sub Total</b>	<b>77</b>	<b>54148.63.2</b>
<b>II. Minor Minerals</b>		
1.Multicoloured Granite	83	184.52.2
2.Black Granite	27	151.94.4
3.Roughstone	1353	2646.07.1
4.Gravel	45	101.27.6
5.Earth	20	69.09.7
6.Pebbles	4	5.50.5
7.Quartz and Feldspar	13	25.24.6
8.Limekankar	7	711.18.9
9.Fireclay	5	17.31.0
10.Silica Sand	1	2.77.0
11.Calcite	1	1.94.5
<b>Sub Total</b>	<b>1559</b>	<b>3916.87.5</b>
<b>Grand Total</b>	<b>1636</b>	<b>58065.50.7</b>

## **1.5 Mineral Resources, Production and Revenue**

Tamil Nadu is endowed with major minerals, minor minerals and oil and Natural Gas. These minerals are detailed below:

### **(A) Major minerals**

#### **(i) Limestone**

It is used in manufacturing lime, cement, chemicals, fertilizers and in



metallurgical industries. It is of two types,

a) Crystalline Limestone, which mainly occurs in Salem, Tiruchirapalli, Karur, Dindigul, Madurai, Virudhunagar, Coimbatore and Kanniyakumari districts.

The reserves of crystalline limestone is estimated to be 200 million tonnes.



(b) Non-Crystalline Limestone or Fossiliferous Limestone: It occurs predominantly in Ariyalur,

Tiruchirapalli, Perambalur and Thoothukudi districts. The reserves of Fossiliferous Limestone is estimated as 670 million tonnes. 57 leases are under operation over an extent of 3380.96.0 ha.

## **(ii) Marl**

This Mineral is used in manufacturing of Cement and Fertilizers. It occurs as a sedimentary deposit in association with Fossiliferous Limestone in Ariyalur District. Marl is being Mined with 5 existing Limestone leases over an extent of 174.38.0 hectares in Ariyalur district.



### **(iii) Molybdenum**

The MECL has identified economically viable deposit of Molybdenum in the districts of Krishnagiri and Dharmapuri. The reserves of Molybdenum is estimated as 0.699 million ton in Krishnagiri district and 8.350 million tonne in Dharmapuri district. The Government of India has conveyed the market price of Molybdenum. The rate of royalty has been received from the Ministry of Mines. This blocks will be brought to auction for developing this strategic mineral.

### **(iv) Bauxite**

The metal Aluminium is extracted from this ore. Bauxite is also used in refractory, cement, chemical, paint industries and for refining petroleum products. The Shervaroy



hills in Salem district and Kolli hills in Namakkal district contain good deposits of Bauxite. Five leases have been granted over an extent of 421.04.2 ha.

### **(v) Magnesite**

It is a magnesium carbonate mineral. It finds wide use in refractories as flux in sintering, blast furnace, conditioners, ceramic filters and abrasives. One of the World's best magnesite deposits occurs in the Chalk hills of Salem district. The reserves of Magnesite are estimated as 40.5 million tonnes. 2 leases are under operation over an extent of 80.28.5 ha.



### **(vi) Graphite**

It is a naturally occurring crystalline Carbon used in the crucible industry and also used in insulators,



electrode, atomic reactors and foundry units. Graphite occurs mainly in Sivaganga and Madurai districts. One lease granted to Tvl. TAMIN Limited over an extent of 237.39.5 ha is in operation in Poovandhi village of Sivaganga district.

### **(vii) Vermiculite**



It is a micaceous mineral, which appears brownish yellow in colour. It is used as insulators and in manufacture of vermitiles. TAMIN is mining this mineral over an extent of 23.70.5 ha in Sevathur village, Tirupattur district.

### **(viii) Lignite**

This energy mineral is found in three areas namely Neyveli,





Mannargudi and Ramanathapuram. The total reserves of Lignite in these areas is estimated at 34,764 million tonnes. The Neyveli Lignite Corporation India Limited (NLCIL) has been mining Lignite in Neyveli over an extent of 25,900 ha in Cuddalore district.

**(ix) Atomic Minerals**

Beach sands in Tirunelveli, Thoothukudi and Kanniyakumari districts contain atomic minerals such as Monazite, Garnet, Ilmenite, Rutile, Sillimanite, Zircon and Leucoxene. Beach sand minerals are used as abrasives, semiconductors and in atomic reactors. The Indian Rare Earths (India) Limited (IREL) has been mining these minerals in Kanniyakumari district. Garnet also occurs as placer deposits in Tiruchirapalli district and as rock forming deposits in Madurai district.

		
Ilmenite	Zircon	Monazite
		
Rutile	Garnet	Sillimanite

The Union Government, Ministry of Mines vide order dated 01.03.2019 notified that the threshold value of monazite occurring in beach sand minerals and other placer deposits is fixed as 0.00%. Henceforth, any mineral concession of beach sand minerals shall be granted only to a "Government Company or Corporation owned or controlled by the Government" under the provisions of the Atomic Minerals

Concession Rules, 2016. 2 leases are under operation over an extent of 148.28.7 ha by IREL.

**(B) Minor minerals**  
**(i) Granite**

Tamil Nadu contains rich deposits of Granite. The hard crystalline rocks that are amenable to cutting



and polishing are called Granite. The quarrying of Granite

in India was pioneered by Tamil Nadu in 1970s.

Granite which is produced in different sizes such as monuments and tiles has huge



market in the foreign countries, earning substantial foreign exchange. Black Granite

occurs in the districts of Krishnagiri,

Dharmapuri, Salem, Villupuram and Tiruvannamalai. Granites of various shades occur in the districts of Krishnagiri, Madurai, Virudhunagar, Salem and Dindigul. Some of the most popular commercial varieties quarried in Tamil Nadu are Kunnam black, Zebra white, Paradiso, Red wave, Tiger skin, Desert brown and Kashmir white. A total of 27 black granite and 83 multicoloured granite quarries over an extent of 336.46.6 ha are under operation in Tamil Nadu.

## **(ii) Gypsum**

Gypsum is used in the manufacture of Plaster of Paris and also in industries such



as cement, fertilizer and pesticides. A total of 16.46.0 ha of land in Coimbatore, Perambalur

and Tiruppur districts have been leased out for mining Gypsum.

### **(iii) Fire Clay**

The main use of fire clay is in refractory, ceramic articles, cement industries and as



decorative tiles. It is found in the districts of Ariyalur, Perambalur and Cuddalore. 5 leases are in operation over an extent of 17.31.0 ha.

### **(iv) Soapstone**

It occurs mainly in the districts of Salem and Namakkal. It is used in the manufacture of talcum powder and decorative articles. Leases have been granted for mining



Soapstone over an extent of 3.28.5 ha in Salem and Namakkal districts.

### **(v) Quartz and Feldspar**

The districts of Salem, Karur, Dindigul, Namakkal, Tiruppur and Dharmapuri have good deposits of Quartz and Feldspar. It is mainly used in glass, refractory, foundry, ceramic, electrical, abrasives and paint industries. 13 leases over an extent of 25.24.6 ha are under operation in the above districts for mining these minerals.



### **(vi) Silica Sand**

It is mainly used in glass industries and in foundries as moulding catalysts. It occurs in the districts of Villupuram,



Nagapattinam, Chengalpet and Cuddalore. One quarry over an extent of 2.77.0 ha is under operation in Chengalpet district.

**(C) Mineral oils  
Petroleum and Natural Gas**

The Oil and Natural Gas Corporation (ONGC) has been producing Oil and



Natural Gas in the districts of Cuddalore, Thanjavur, Tiruvarur, Nagapattinam, Pudukottai, Mayiladuthurai, Ariyalur and Ramanathapuram.

**(D) Mineral Production**

In Tamil Nadu, the details of production of major minerals including oil and natural gas and minor minerals from April 2021 to March 2022 are tabulated below:

### (i) Production of major minerals

Sl. No.	Mineral	Production (in Metric Tonne)	Revenue (Rs. in crore)
1	Lignite	2,36,26,296	296.00
2	Limestone	2,04,56,860	171.52
3	Magnesite	48,349	0.62
4	Vermiculite	670	0.01
5	Graphite	49,233	0.12
6	Marl	6,30,141	4.23
7	Garnet	3,952	0.24
8	Ilmenite	60,154	2.63
9	Rutile	1,959	0.45
10	Zircon	4,328	0.97
11	Monazite	2,030	0.02
<b>TOTAL</b>		<b>4,48,83,972</b>	<b>476.81</b>

### (ii) Production of Oil and Natural Gas

Sl. No.	Mineral	Production	Revenue (Rs. in crore)
1	Crude Oil	3,66,319 MT	223.41
2	Natural Gas	101,91,92,017 cbm	66.54
<b>Total</b>			<b>289.95</b>



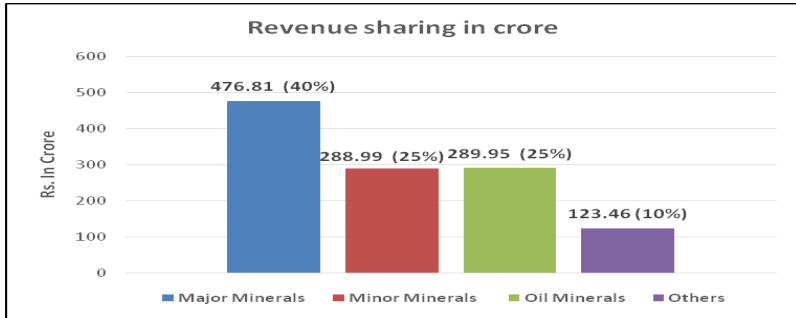
### (iii) Production of minor minerals

Sl. No.	Mineral	Production	Revenue (Rs.in crore)
1	Coloured Granite (cbm)	1,03,970	22.93
2	Black Granite (cbm)	21,064	9.01
3	Rough Stone (cbm)	3,99,81,625	212.47
4	Gravel (cbm)	58,84,820	23.91
5	Earth (cbm)	24,84,349	16.21
6	Pebbles (cbm)	14,946	0.40
7	Quartz (MT)	14,323	0.25
8	Feldspar (MT)	73,330	0.73
9	Silica Sand (MT)	2,900	0.04
10	Lime Kankar (MT)	2,56,930	2.18
11	Fire clay (MT)	2,54,370	0.78
12	Calcite (MT)	1,890	0.01
13	Quartzite	225	0.002
14	Clay(MT)	35,000	0.07
<b>Total</b>		<b>4,91,29,742</b>	<b>288.99</b>

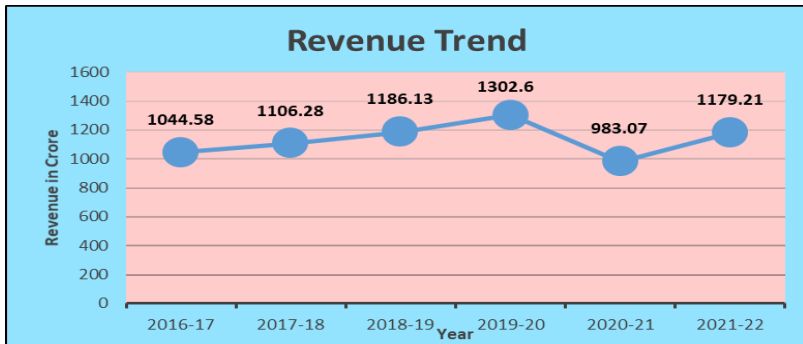
### (E) Mineral Revenue

The revenue generated from the mineral resources during the financial year 2020-21 was Rs.983 crore. During the current financial year 2021-22, the revenue generated is

Rs.1179.21 crore. The share of revenue from major minerals, minor minerals and oil minerals is shown below.



**The revenue realization for the last six financial years is shown below:**



Due to effective enforcement during this financial year till March 2022, 9,363 vehicles transporting minerals without valid transport

permits were seized. A penalty of Rs.1.13 crore was levied and collected. In addition, 6,806 criminal cases / FIRs have been filed. Goondas Act has been invoked against 19 habitual offenders.

### **1.6 National Mineral Exploration Trust**

The National Mineral Exploration Trust was established in 2015. The lessees of major minerals have been contributing 2% on royalty to this Trust. A sum of Rs.66.15 crore has been contributed by them to the Trust for the period till 31.03.2022.

This fund is invested for exploration of minerals regionally and particularly for strategic and critical minerals, development of mineral resources, extraction of minerals by adopting modern scientific and technological methods, facilitate



geophysical, geochemical, aerial geo-survey of mineral potential areas and to organize capacity building programs.

Exploration of Limestone in 5 blocks over an extent of 655 ha in Ariyalur district has been taken up at a cost of Rs.6.55 crore in 2019. The MECL explored Limestone in 4 blocks and KIOCL in 3 blocks and have submitted their reports. The Geological Survey of India has identified one limestone block and submitted the report. Auction process for eight limestone blocks is under progress.

The Geological Survey of India has handed over four limestone blocks and one graphite block under G4 level. Auction process to bring the composite licenses for the said five blocks is under progress.

## **1.7 District Mineral Foundation Trust**

The District Mineral Foundation Trust was established in all the districts except Chennai and Nilgiris in 2017. The public sector undertakings and private companies granted with leases for mining and quarrying of minerals before 12.01.2015 have been contributing 30% on royalty or seigniorage fee and lessees granted leases after this period are contributing 10% on royalty (or) seigniorage fee to the Trust. This fund is utilized for the implementation of the Pradhan Mantri Khanij Kshetra Kalyan Yojana (PMKKKY) and other welfare schemes for areas and people of the mine affected areas. A sum of Rs.1027.29 crore has been contributed by the lessees from the period of establishment of this Trust since 2017 till 31.03.2022

A minimum of 60% of the fund is earmarked for taking up projects under the high

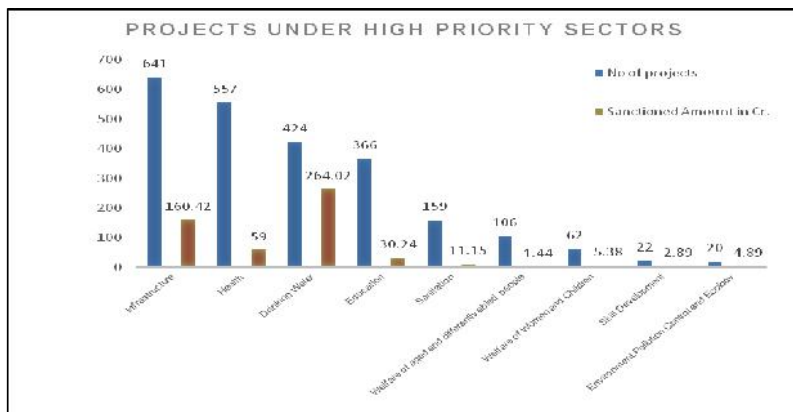
priority sectors such as health care, drinking water, education, welfare of women and children, welfare of aged and differently abled people, skill development, infrastructure, sanitation, environmental preservation and measures to control pollution.

The remaining fund is used for projects that fall under other priority sectors such as irrigation development, energy and watershed development, environmental preservation and pollution control measures.

A total of 2,454 projects have been taken upto 31.03.2022 at a cost of Rs.709.04 crore. Out of these projects, 1,635 projects have been completed and put into use. The number and cost of projects that are taken up under high priority and other priority sectors are shown in the table.

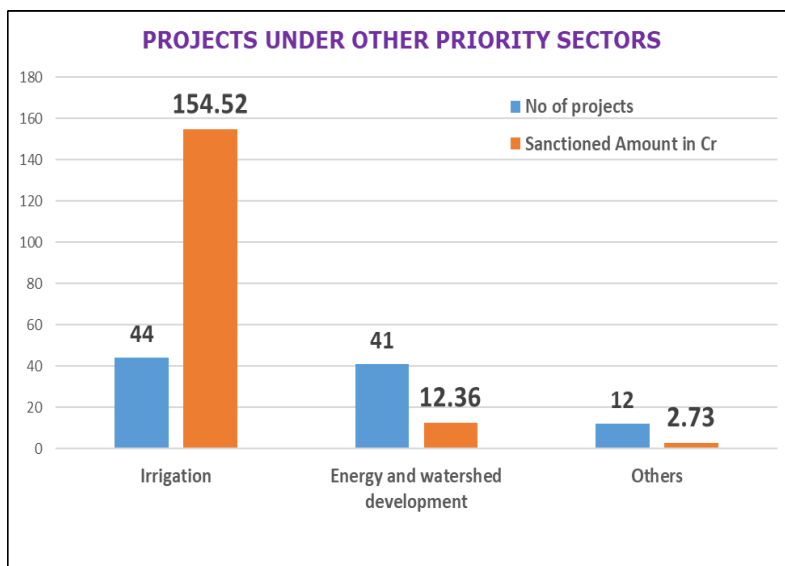
## (i) Projects under High Priority Sectors

Sl. No.	Sectors	No of projects	Sanctioned Amount (in crore)
1	Infrastructure	641	160.42
2	Health	557	59.00
3	Drinking Water	424	264.02
4	Education	366	30.24
5	Sanitation	159	11.15
6	Welfare of aged and differently abled people	106	1.44
7	Welfare of Women and Children	62	5.38
8	Skill Development	22	2.89
9	Environment, Pollution Control and Ecology	20	4.89
<b>Total</b>		<b>2,357</b>	<b>539.43</b>



## (ii) Projects under Other Sectors

Sl. No.	Sectors	No of projects	Sanctioned Amount in Crore
1	Irrigation	44	154.52
2	Energy and watershed development	41	12.36
3	Others	12	2.73
<b>Total</b>		97	169.61
<b>Grand Total</b>		<b>2,454</b>	<b>709.04</b>





## **1.8 Initiatives**

### **1.8.1 Establishment of Green Fund**

In the Government Order dated 23.02.2022, the Government have inserted a new Rule 35-A in Tamil Nadu Minor Mineral Concession Rules, 1959 for establishment of a Green Fund in each district for reclamation, restoration, and rehabilitation of abandoned quarries / mines. The prospecting license / lease holder of any mineral shall, in



addition to seigniorage fee contribute to the Green Fund of the district in which mining / quarry operations are to be done, an amount at

the rate of 10% of seigniorage fee and if the minerals are to be transported outside the State, shall pay 20% of the seigniorage fee. An amount of Rs. 21.73 lakhs have been collected under Green Fund up to 31.03.2022.

### **1.8.2 Restoration of 436 old abandoned mines and quarries for public utility**

As per the announcement of the Hon'ble Minister for Water Resources during the year 2021 all the District Collectors have been addressed to bring the 436 identified abandoned mines / quarries for public utility such as rain water harvesting structures in coordination with the Tamil Nadu Water Supply and Drainage Board and Local Bodies.

### **1.8.3 Preventing illicit mining / quarrying through Drone Technology**

The Department will now utilize the Drone Technology to prevent illicit mining in all the districts at an estimated recurring cost of Rs.25 Crore. To keep a vigil on excess mining in the leased-out areas and mining of minerals outside the leased boundaries,



drone technology is deployed for assessing the quantum of minerals removed for recovering the cost of minerals from the lessees and invoking penal action against them.

In this regard, the Government has already sanctioned an amount of Rs.50 lakh during the year 2020-21. In the first phase, as per the MOU signed with the Anna University, Drone Technology was utilized in Theni district for surveying 54 stone quarries for assessment of quantum of minerals excavated and transported. This technology is proposed to be extended all over the State, wherein the quantum mined will be measured twice a year and the revenue due to the Government will be collected without any delay.

### **1.8.4 Protection of Ancient Monuments, Tamil inscriptions, Samanar Padukai and Archaeological sites**

The Government have amended the provisions of the Tamil Nadu Minor Mineral concession Rules, 1959 by fixing 500m radial distance from the boundaries of an archeological site or remains and ancient monument and one kilometer radial distance from the boundaries of National Parks, Wild Life Sanctuaries, Tiger Reserves, Elephant Corridors and Reserve Forests or the protective distance as notified by the Ministry of Environment, Forest and Climate Change, Government of India from time to time, whichever is more. This will pave way for protection of Ancient Monuments, Tamil Inscriptions, Samanar Padukai and all Archeological sites of Tamil Nadu from extensive mining.



### **1.8.5 Augmenting Revenue by disposing the Granite Waste in quarries**

The waste granite generated during the quarry operations are dumped and stocked at the quarry site without any usage for the long period which are exposed to various climatic condition resulting in quality degradation. There is a huge demand for granite waste for production of M-Sand, road metals and other purposes.

Granite wastes may be disposed for M-sand productions and other various usages after due amendment in the existing rules by fixing the seigniorage fee on tonnage basis, thereby the Government will get substantial revenue from the above sources. In this regard, amendment in the Tamil Nadu Minor Mineral Concession Rules, 1959 for disposing the granite waste will be issued shortly.

### **1.8.6 Formulation of sustainable mining policy and M-sand policy**

The Department of Geology and Mining has proposed to formulate a sustainable mining policy to ensure that the mining activity is carried out without affecting the environment and Ecology. It is also proposed to formulate a policy to regulate M-sand in the State.

### **1.8.7 Establishment of Fossil Geological Parks at Ariyalur and Perambalur**

It is proposed to establish a Geo-heritage Park in 495.60.0 ha at Perambalur District and 4.01.5 ha of Government lands in Ariyalur District. The badland topography with



series of conical hills separated by valleys is called "Karai" formation in Karai village of Perambalur district with unique lithology and diversity of

extinct marine life. These formations consist of pockets of phosphatic nodules and fossils like Ammonites, Nautilus, Belemnites, etc. It attracts a large number of scientists from all over the world for geo-scientific studies. Its protection and preservation will not only help in creating interest about life through ages of Mother Earth in the minds of common man, but also provides possibility of unravelling the paleo-geographic and paleo-environment of the area. In order to establish Fossil Park to protect these Fossils, preparation of Detailed Project Report is in final stage.







Combined Water Supply Scheme for 9 Panchayats in Panruti and Annagramam Unions of Cuddalore Districts at the cost of Rs.9.21 crore implemented from DMFT Fund

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Construction of Primary Health Center at Karmangudi Village of Srimushnam Taluk in Cuddalore District at the cost of Rs.80 lakh