



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

INDUSTRIES DEPARTMENT

MINES AND MINERALS

POLICY NOTE

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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:

Mineral	No. of Leases under operation	Extent (in Ha)
I. Major Minerals		
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
Sub Total	77	54148.63.2
II. Minor Minerals		
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
Sub Total	1559	3916.87.5
Grand Total	1636	58065.50.7

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.

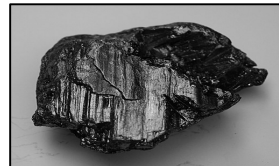
(v) Magnesite

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



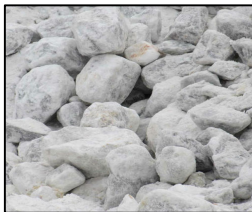
market in the foreign countries, earning substantial foreign exchange. Black Granite

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

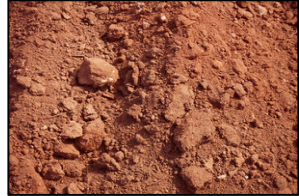


as cement, fertilizer and pesticides. A total of 16.46.0 ha of land in Coimbatore, Perambalur

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

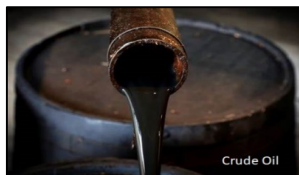
It is mainly used in glass industries and in foundries as moulding catalysts. It occurs in the districts of Villupuram,



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
TOTAL		4,48,83,972	476.81

(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
Total			289.95

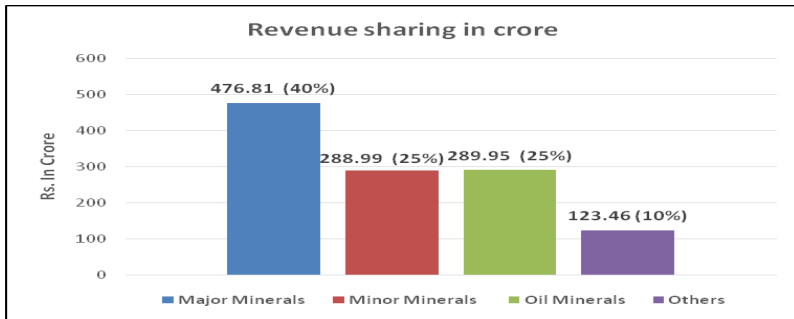
(iii) Production of minor minerals

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
Total		4,91,29,742	288.99

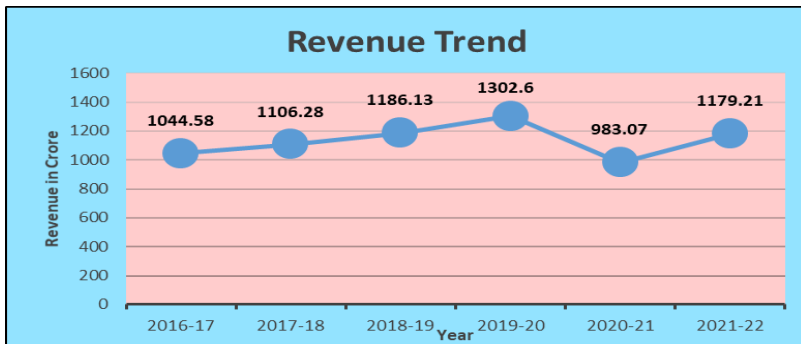
(E) Mineral Revenue

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

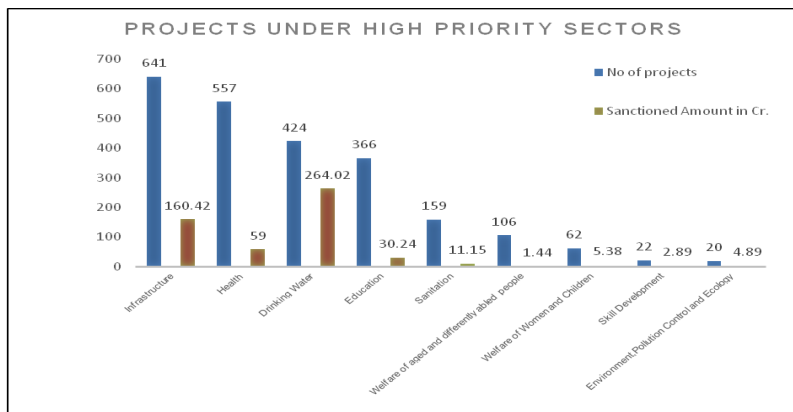
priority sectors such as health care, drinking water, education, welfare of women and children, welfare of aged and differently abled people, skill development, infrastructure, sanitation, environmental preservation and measures to control pollution.

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.

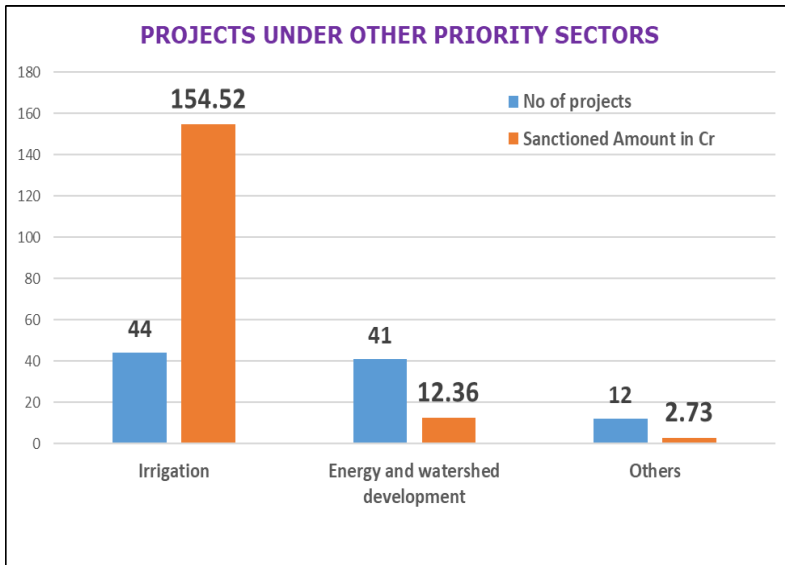
(i) Projects under High Priority Sectors

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
Total		2,357	539.43



(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
Total		97	169.61
Grand Total		2,454	709.04



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

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2. TAMIL NADU MINERALS LIMITED

TAMIN, a Government of Tamil Nadu undertaking was established in April 1978. The main objective of TAMIN is to explore, process and market granite raw blocks, major and minor minerals and value added products. TAMIN is excavating black and colour granite, major minerals such as limestone, graphite in a systematic and scientific manner. TAMIN has also created a market for itself for various finished and semi-finished granite products like dimensional, calibrated tiles, random building slabs, monuments in various countries.

2.1 Granite



Tamil Nadu commanded prominence since 1978 to 2016 with over 20 percent of granite supply within India. Granites produced by

TAMIN are considered amongst the best quality granites in the world.

Due to shutting down of 35 quarries from 2013 to 2020 due to stringent requirement of getting Environmental Clearance, TAMIN's turnover from granites came down from Rs.113 crore in 2013-14 to Rs.19 crore in 2019-20. TAMIN has produced about 4,700 cbm of Granite raw blocks during 2021-22 and earned revenue of Rs.39 crore. TAMIN aims to increase it to Rs.77 crore in financial year 2022-23 and to Rs.105 crore during 2023-24.



2.2 Graphite

Graphite has emerged as an indispensable material



for modern industry due to its stability at high

temperature, inertness to chemical action and high electric and thermal conductivity. The main uses of natural graphite are in industries such as crucibles, foundries, batteries, lubricants, paint and other high end applications.

TAMIN is operating an industrial unit at Sivaganga district and is producing graphite flakes



varying from 84% to 96% fixed carbon (FC) since 1994. TAMIN has produced 5,700 MT of Graphite flakes during

2021-22 and realized sale revenue of Rs.19 crore. TAMIN's share in domestic production of graphite flakes is about 30%.

2.3 Beach Sand

TAMIN has initiated active deliberations with Indian Rare Earths Limited (IREL) for entering into MoU for establishing a Joint Venture for

mining, processing and marketing of beach sand minerals which would fetch revenue of Rs.1,500 crore per annum. TAMIN has identified two



prospecting mining areas, one at Sathankulam and second at Kudiraimozhi, Tuticorin District.

2.4 Silica Sand



TAMIN is the only manufacturer who is authorized by BIS to supply Indian Standard Sand (As per IS 650:1991) to all cement factories in India for cement testing. This Silica sand is mined from Mudhaliyarkuppam silica sand mine, Chengalpet District and is processed at Indian Standard Sand Unit, Ennore, Chennai District.

2.5 M-Sand

TAMIN has identified 90 ha of Charnockite mineral at Nemili, Ranipet district which is suitable for M-Sand production so as to set up M-Sand plant.

2.6 LEASE DETAILS

TAMIN has 17 leases in operation and the details are given as below:-

Sl. No.	Minerals	No. of leases	Extent (in hect.)
1	Black Granite	10	287.93.5
2	Colour Granite	03	30.13.0
3	Minor Minerals (other than Granite)	01	2.77.0
4	Major Minerals	03	270.50.5
Total		17	591.34.0

2.7 Production & Sales Performance during the year 2021-22

Name of the Minerals	Production	Sales	
		Quantity	Rs. (in lakh)
1. Dimensional Granite Blocks M³			
(i) Black Granites	3,065 M ³	4,119 M ³	3,607.85
(ii) Colour Granites	1,620 M ³	1,462 M ³	298.12
2. Major Minerals	1,47,000 MTs	88,749 MTs	1,024.95
3. Finished Products			
(i) Granite Slabs	-	3,400 M ²	46.62
(ii) Graphite Flakes	5,750 MTs	5,745 MTs	1,862.53
(iii) Indian Standard Sand	1,500 MTs	1,177 MTs	391.43
(iv) Exfoliated vermiculite	600 MTs	561 MTs	86.40
(v) Others- Graphipavers and Vermiculites	-	-	68.44
Total			7,386.34

During financial year 2021-2022, TAMIN has achieved a sales turnover of Rs.74 crore. TAMIN plans to achieve a sales turnover of Rs.126 crore in the financial year 2022-2023 and earn a profit of Rs.8 crore.

2.8 Action Plan 2022-2023

The budgeted Production and Sales plan for the financial year 2022-23 is as follows:

Budget Estimate: 2022-2023			
Name of the Minerals	Production	Sales	
		Quantity	Rs. (in lakh)
1.Dimensional Granite Blocks M³			
(i) Black Granites	10,954 M ³	9,810 M ³	6,804.60
(ii) Colour Granites	5,550 M ³	5,225 M ³	853.20
2.Major Minerals	1,89,044 MTs	1,15,844 MTs	1,050.00
3.Finished Products:			
(i)Granite & Slab	-	51,000 M ²	477.50
(ii)Graphite Flakes	7,000 MTs	6,000 MTs	2,220.00
(iii) Indian Standard Sand	2,400 MTs	2,400 MTs	1,032.00
(iv) Exfoliated vermiculite	1,200 MTs	1,080 MTs	172.80
Total			12,610.10

2.9 New Initiatives

- TAMIN has obtained Environmental Clearance for 8 mining projects and increased the numbers of mines and quarries in operation from 9 during financial year 2020-2021 to 17 during financial year 2021-2022. TAMIN expects to get Environmental Clearance for

7 more quarries / mines during 2022-2023 and expand further.

- TAMIN has identified 3 limestone bearing areas, at Melarasur in Trichy District, Redipalayam in Ariyalur District, Thennilai in Karur District and the reservation proposals are under active consideration of Government.
- TAMIN has been notified as Exploration Agency to take up exploration under NMET fund. Certain limestone blocks have been identified and exploration will be carried out in the financial year 2022-2023.
- TAMIN has purchased DGPS survey equipment at the cost of Rs.19,27,530/- and survey is being carried out in TAMIN mines / quarries as per new mining law.
- TAMIN has taken an initiative to migrate to e-office system from present manual file method.

3. TAMIL NADU MAGNESITE LIMITED

Tamil Nadu Magnesite Limited (TANMAG), a Tamil Nadu State owned Public Sector Undertaking was established in 1979. Mining Lease to an extent of 96.34 hectares at Kurumbapatty Reserve Forest area was obtained from the Government. As per the Ministry of Environment, Forests and Climate Change Letter No.Z-11013/89/2017-IA.II2(M), dated 12.04.2018, TANMAG has temporarily stopped the mining operations with effect from 14.4.2018 and applied for environmental clearance on 13.04.2018.

State Environment Impact Assessment Authority (SEIAA) accorded Environmental Clearance (EC) on 14.10.2020. Subsequently, Tamil Nadu Pollution Control Board has issued Consent to Operate the mines on 10.11.2020 and TANMAG has resumed mining operation on

19.11.2020. Stipulated conditions in EC are to produce 6,00,590 MT of Magnesite and 5,67,077 MT of Dunite in 5 years as per mining plan approved by IBM and every financial year TANMAG is obtaining Consent to Operate (CTO) from Tamil Nadu Pollution Control Board (TNPCB).

Due to the restrictions by Tamil Nadu Pollution Control Board to operate the mine not below 5 meter depth

- (i) The mine area has been reduced from 96 ha to 3 ha.
- (ii) The Raw Magnesite recovery percentage also reduced from 6% to 2%, since the mining activity is carried out on surface area.

Hence the expected production was not accomplished.

The authorized Share Capital of the Company is Rs.50 crore consisting of 50.00 lakh shares of Rs.100/- each and the paid up capital is 16,65,000 Shares of Rs.100/- each amounting to Rs.16.65 crore.

3.1 Activities

TANMAG excavates Magnesite by open cast semi-mechanized method and employs qualified and experienced mining personnel. It exploits the mineral resource through scientific and eco friendly mining techniques. While mining Magnesite, Dunite is obtained as a co-existent mineral.

The process of mining Raw Magnesite involves selection and preparation of site, drilling, blasting, picking, dressing, sorting, stacking and removal of rejects to spoil bank. The Company has three Divisions namely, Mines Division, Shaft Kiln Division (SKD) and Rotary Kiln Division (RKD).

3.2 Products

The excavated raw magnesite is captively consumed for manufacturing of Dead Burnt Magnesite (DBM) at Rotary Kiln Division and Lightly Calcined Magnesite (LCM) at Shaft Kiln

Division. Dunite is a co-existing mineral with Raw Magnesite and is sold to customers directly.

3.3 Shaft Kiln Division (SKD)

TANMAG manufactures Lightly Calcined Magnesite, also called as Caustic Calcined Magnesite in its Shaft Kiln Division having 5 numbers of Vertical Shaft Kilns. The installed capacity for Calcined Magnesite is 20,000 tonnes per annum. Raw Magnesite is calcined in Shaft Kiln using Furnace Oil as fuel at a temperature in the range of 1000 to 1100 degrees Celsius to produce chemically reactive grade which is highly reactive in nature.

3.4 Rotary Kiln Division (RKD)

TANMAG manufactures Dead Burnt Magnesite in its modern Rotary Kiln (Supplied and erected by M/s. F.L.Smith and Co., Denmark) with an installed capacity of 30,000 MT per annum. It was commissioned during December 1985.

The Raw Magnesite (Refractory Grade) is sintered at a high temperature of 1750 degree Celsius using Furnace oil/ LSHS oil as fuel to produce Dead Burnt Magnesite.

3.5 New Initiatives

Action is being taken to improve the performance of recovery of ores from mines and efficient usage of kiln in the factories. TANMAG has planned to study with help of CSIR-IMMT, Bhuvaneshwar for improving ore recovery, implementing modern and advanced technology and alternate fuel for Furnace oil.

3.6 Segregation of Raw Magnesite (RM) from Spoil Dumps

RM Lumps and smalls above 1" size are collected by picking manually. A detailed study is being proposed to recover RM size less than 1" mixed with the spoil. It is estimated that about

15% of RM will be recovered from the spoil dumps.

3.7 The Details of production and sales for the year 2021-2022 are follows:-

Details	Qty in MT	Rs in lakh
Production		
Raw Magnesite (RM)	30,800	
Dead Burnt Magnesite	4,500	
Lightly Calcined Magnesite	6,750	
Dunite	42,000	
Sales		
Dead Burnt Magnesite	2,118	660.00
Lightly Calcined Magnesite	6,750	2,286.00
Dunite	43,660	2,755.00
Others (RMD & SCD etc.,)		150.00
RM Transfer -Mines to RKD	20,533	
RM Transfer -Mines to SKD	10,267	
RM Transfer RKD to SKD	4,498	
Total Turnover		5,851.00
Other Income		164.24
Total Revenue		6,015.24
Estimated Profit Before Tax		1,092.56

3.8 ACTION PLAN FOR THE YEAR 2022-23 & 2023-24

The tentative Production and Sales targets for the year 2021-22 and for the year 2022-23 are as detailed below:

Particulars	2022-23			2023-24		
	Production	Sales		Production	Sales	
	Qty-MT	Qty-MT	Rs in lakh	Qty- MT	Qty-MT	Rs in lakh
Raw Magnesite*	60,000	Captive consumption		1,20,000	Captive consumption	
Dead Burnt Magnesite	14,800	13,000	4,550.00	30,000	30,000	10,500.00
Lightly Calcined Magnesite	9,000	6,000	1,800.00	17,000	17,000	5,100.00
Dunite	80,000	80,000	4,880.00	1,20,000	80,000	4,880.00
Others			165.00		5,000	275.00
Other Income			196.30			215.00
Total Income			11,591.30			20,970.00

*After obtaining NOC from the State Ground and Surface Water Resources Data Centre

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MINISTER FOR WATER RESOURCES