Executive Summary For Public Hearing

Thiru.Venkata Reddy Rough Stone Quarry-2.38.5 Ha

At

S.F No 1267/2, 1268/2, 1268/3 of Kammandoddi Village, Shoolagiri Taluk, Krishnagiri District. Sector No. 1(a) (Sector No. 1 as per NABET) Category of the Project: B1 (Cluster Mining)

Project Proponent:

Thiru. P. Venkata Reddy
S/O G. Pillareddy
Kukkalapalli Village,
Kammandoddi Post, Shoolagiri Taluk
Krishnagiri District,
Pincode-635 109

Prepared By:

M/s Ecotech Labs Pvt. Ltd NABET Accreditated EIA Consultant
48, 2nd Main road, Ram Nagar South Extension,
Pallikaranai, Chennai -600100

DECEMBER 2022

EXECUTIVE SUMMARY

1. Project Background:

The Proposed project is Scheme of mining with Mine Closure Plan with a total extent area is 2.38.5 hectares. It is a Patta land in S.no 1267/2, 1268/2 & 1268/3It Kammandoddi Village, Shoolagiri Taluk, Krishnagiri District. It is a proposed Rough Stone quarry. The. The category of the project is B1 (cluster), the lease area exhibits undulated terrain and gently sloping towards western side covered with Rough Stone.

The quarry operation is proposed to carry out with conventional open cast mechanized mining with 7.0 meter vertical bench with a bench width of 5.0 meter. The Quarry operation involves shallow jack hammer drilling, slurry blasting, loading and transportation.

The quarry operation is proposed up to depth of 43m (1.0m Topsoil + 42.0m Rough Stone). Geological Resources is estimated at **9,44,148** m³ of Rough stone and Mineable Reserves is estimated at **4,05,339** m³ of Rough Stone and after leaving necessary safety distance from the lease boundary as indicated in the precise area letter and relevant mining laws in force. Production Schedule is proposed production of **4,05,339** m³ of Rough Stone for the period of Five years.

The Scheme of Mining was approved by Assistant Director, Geology and Mining, Krishnagiri vide letter Roc No.1123/2021/Mines dated:23.04.2021 for a period of 2022-2023 to 2026-2027. The project area does not fall in Hill Area Conservation Authority region. There is no interstate boundary, CRZ zone, Western Ghats, notified Bird sanctuaries, wild life sanctuaries as per Wild life protection Act 1972, within the radius of 15Km.

1.1 PRESENT QUARRY ACTIVITY

The Scheme of Mining along with Progressive Mine Closure Plan has been proposed for Rough Stone Quarry in Patta Land S.F.Nos.1267/2, 1268/2 & 1268/3 over an extent of 2.38.5 Ha. in Kammandoddi Village, Shoolagiri Taluk, Krishnagiri District.

The fresh Mining Plan was approved by Deputy Director, Geology and Mining, Krishnagiri vide letter Roc No.721/2015/Mines dated:30.9.2016 for a period of 2017-2018 to 2021-2022. Please refer Annexure-V. Copy of Approved Mining plan Letter.

Accordingly, the Lessee had obtained Environmental Clearance from SEIAA-TN vide Lr.No. SEIAA- TN/F.No.5883/1(a)/EC.No:3902/2016 dated 13.06.2017. Please refer Annexure- III.

The Mining Lease was granted in Rc.No.721/2015/Mines-2 dated:30.10.2017 for the period of Five years.

The lease deed was executed on 10.11.2017. Mining operation commenced on 01.01.2018. The lease will expire on 09.11.2022.

However as per the recent Amendment TNMMCR, G.O.(Ms)No.208 Industries (MMC.1) Department dated 21.09.2020. the validity of the Mining Lease is extended upto 09.11.2027. This Scheme of Mining for the period 2022-2023 to 2026-2027 is prepared and submitted under Rule 12 of MMCDR,2010 and 41 & 42 of TNMMCR, 1959 for approval.

The Scheme of Mining was approved by Assistant Director, Geology and Mining, Krishnagiri vide letter Roc No.1123/2021/Mines dated:23.04.2021 for a period of 2022-2023 to 2026-2027.

The mining operations are done by opencast semi-mechanized methods with jack hammer drilling and blasting, hydraulic excavators are used for loading the Rough stone from pithead to the needy crushers.

2. Nature & Size of the Project

The Rough Stone Quarry over an extent of 2.38.5 Hectares land is located Kammandoddi Village of Shoolagiri Taluk, Krishnagiri District.

Mineral intends to quarry : Rough stone

District : Krishnagiri

Taluk : Shoolagiri

Village : Kammandoddi

S. F. Nos. : 1267/2, 1268/2 & 1268/3

Extent : 2.38.5 Hectares

Table 1: Brief Description of the Project

S. No	Particulars	Details	
1	Latitude	12°39'42.99"N to 12°39'41.44"N	
2	Longitude	77°57'41.79" E to 77°57'33.09"E	
3	Site Elevation above MSL	739 m AMSL	
4	Topography	Undulated terrain	
5	Land use of the site	Own Patta land	
6	Extent of lease area	2.38.5 На	
7	Nearest highway	NH 44 – Dharmapuri-Bengaluru Road, 1.8 km, N	
,	ivearest ingilway	SH 85 – Attibele Rayakottai Road – 10.4 km, S	
8	Nearest railway station	Kelamangalam Railway Station – 11.5 km, SW	
9	Nearest airport	Hosur Airport – 21.2 km, W	
10	, and the second	Town - Kammandoddi – 5.4 -NW City - Shoolagiri – 5.9 Km -NE District - Krishnagiri - 31.2 Km -SE	
11	Rivers / Canal	• Gobasandram River – 4.0 km, NW Ponnaiyar River- 4.2 km, S	
12	Lake	 Kammandoddi Lake – 2.7 km, NW Konerapalli Lake- 2 km, N Chappadi Lake- 2.2 km, NE Bukkasagaram- 7 km, N Doripalli Lake- 5.3 km, N 	
13	Hills / valleys	Nil in 15 km radius	
14	Archaeologically places	Nil in 15 km radius	
1 15	National parks / Wildlife Sanctuaries	Nil in 15 Km radius	
1 16	Reserved / Protected Forests	 Sanamavu Reserved Forest- 6.6 km, SW Perandapalli Forest- 4.8 km, W 	
17	Seismicity	Proposed Lease area come under Seismic zone-II (low risk area)	
18	Defense Installations	Nil in 15 Km radius	

3. Need for the Project

- The mining activities as proposed are the backbone of all construction and infrastructure projects as the raw material for construction is available only from such mining. The Rough stone extracted will be transported to be Stone crusher of district Krishnagiri.
- The raw Rough stone as well as the crushed material of stone is in high demand in real estate, construction projects as well as in building construction projects.

- * Rough stone is quarried for producing crusher aggregates to the nearby building contractors, road contractors and nearby villagers.
- After quarrying the entire reserves mined out, the area will be used as water reservoir to have an artificial recharge to the nearby wells.
- No damage to the land is caused, no reclamation or back filling is required.

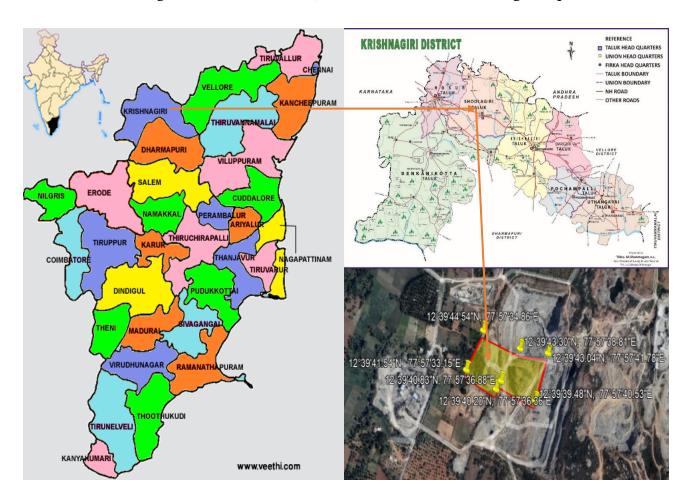


Figure 1: Location Map of the Project Site



Figure 2: Google Image of the Project Site

4. Charnockite

Krishnagiri District is comprised of Archaean peninsular gneisses such as Charnockites, Hornblende gneisses, Biotite gneisses and migmatites, dolerites and are intruded by younger formations like pegmatite

and quartz veins. The peninsular gneisses/ migmatite consists of biotite mica, plagioclase and orthoclase feldspar and quartz and are found as sheet rocks. The rock formations surrounded by shear zones in between the country rocks and later period of intrusions, fractured / joint, weathered rock formations, the metamorphosed rock formations are in enormous in nature. The massive rock formations which are not suitable for the productions of granite slabs are also suitable and used to produce rough stones. The predominant occurrence of granitic gneissic rock formations which are most suitable to produce rough stone, jelly and for making M. Sand, crusher dust.

5. Geological Resources

The geological reserves have been calculated based on the cross section method.

Table 2. Geological resources

						Geological	Mine	
Section	Bench	Length	Width	Depth	Volume	Resources	waste in	Top Soil
Section	Dench	in (m)	in (m)	in (m)	In m ³	in m ³ @	m³ @	in m ³
						95%	5%	
	I	109	111	1				12099
	II	109	111	7	84693	80458	4235	
	III	109	111	7	84693	80458	4235	
XY-AB	IV	109	111	7	84693	80458	4235	
	V	109	111	7	84693	80458	4235	
	VI	109	111	7	84693	80458	4235	
	VII	109	111	7	84693	80458	4235	
		Total=			508158	482748	25410	12099
	I	13	23	1				299
	II	43	41	7	12341	11724	617	
	III	115	98	7	78890	74946	3944	
XY-	IV	115	98	7	78890	74946	3944	
CD	V	115	98	7	78890	74946	3944	
	VI	115	98	7	78890	74946	3944	
	VII	115	98	7	78890	74946	3944	
	VIII	115	98	7	78890	74946	3944	
		Total=		ı	485681	461400	24281	299
	Grand Total=			993839	944148	49691	12398	

Table 3. Mineable Reserves

Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume In M ³	Mineable Reserves in m3 @ 95%	Mine waste in m3 @ 5%	Top Soil in m ³
	I	102	94	1				9588
	II	101	92	7	65044	61792	3252	
	III	96	82	7	55104	52349	2755	
XY-AB	IV	91	72	7	45864	43571	2293	
	V	86	62	7	37324	35458	1866	
	VI	81	52	7	29484	28010	1474	
	VII	76	42	7	22344	21227	1117	

Total=					255164	242407	12757	9588
	I	3	5	1				15
	II	33	22	7	5082	4828	254	
	III	105	69	7	50715	48179	2536	
XY-CD	IV	100	59	7	41300	39235	2065	
	V	95	49	7	32585	30956	1629	
	VI	90	39	7	24570	23342	1228	
	VII	85	29	7	17255	16392	863	
Total=					171507	162932	8575	15
Grand Total=					426671	405339	21332	9603

Table 4. Year wise Production Plan

					1		CTION RESER	1	1
YEAR	Section	Bench	(m)	W (m)	D(m)	Volume In m ³	Recoverable Reserves in m ³ @ 95%	Mine waste in m ³ @ 5%	Top Soil in m ³
10.11.2022-	XY-AB								
09.11.2023		I	102	94	1				9588
		II	101	92	7	65044	61792	3252	
	XY-	I	3	5	1				15
	CD	II	33	22	7	5082	4828	254	
		III	105	69	7	50715	48179	2536	
		T	otal=			120841	114799	6042	9603
10.11.2023-	XY-AB								
09.11.2024		III	96	82	7	55104	52349	2755	
	XY- CD	IV	100	59	7	41300	39235	2065	
		Т	otal=		- J	96404	91584	4820	
10.11.2024-	XY-AB								
09.11.2025		IV	91	72	7	45864	43571	2293	
	XY- CD	V	95	49	7	32585	30956	1629	
		Т	otal=		- J	78449	74527	3922	
10.11.2025-	XY-AB								
09.11.2026		V	86	62	7	37324	35458	1866	
	XY- CD	VI	90	39	7	24570	23342	1228	
		Т	otal=			61894	58800	3094	
10.11.2026-	XY-AB								
09.11.2027		VI	81	52	7	29484	28010	1474	
		VII	76	42	7	22344	21227	1117	
	XY- CD	VII	85	29	7	17255	16392	863	
		T	otal=			69083	65629	3454	
	Gra	and Tota	1=			426671	405339	21332	9603

6. Mining

Opencast mining

The quarry operation is proposed to carry out with conventional open cast mechanized mining with 7.0 meter vertical bench with a bench width of 5.0 meter. The Quarry operation involves shallow jack hammer drilling, slurry blasting, loading and transportation.

Process Description

- > The reserves and resource are arrived based upon the Geological investigation
- Removal of Topsoil by Excavators and directly Loaded Into Tippers.
- > Removal of Rough Stone by Excavators by Drilling and Blasting.
- ➤ Shallow Drilling With Jackhammer of 25.5mm Dia.
- > Minimum Blasting With Class 3 Explosives.
- ➤ Loading of Rough Stone By Excavators Into Tippers.

7. Water Requirement

Total water requirement for the mining project is 2 KLD. Domestic water will be sourced from nearby Kammandoddi Village and other water will be source from nearby road tankers supply.

Table 5. Water Balance

Purpose	Quantity	Source
Drinking Water	1.0 KLD	Drinking water will be brought from the approved water vendors in the nearby villages.
Green belt	0.5 KLD	Other domestic activities through road tankers supply
Dust suppression 0.5 KLD F		From road tankers supply
Total	2.0 KLD	

8. Man Power

Total manpower required for the project is approximately 14 persons. Workers will be from nearby villages.

Table 6. Man Power

1.	Skilled	Operator	8 No.
		Foreman/ Part time	1 No.
		Mining Engineer	
		Blaster /Mate	1 No.
2.	Semi-skilled		3 No.
3.	Unskilled		1 Nos
		Total =	14 Nos

No child less than 18 years will be entertained during quarrying operations.

9. Solid Waste Management

Table 7. Solid Waste Management

S. No	Type	Quantity	Disposal Method	
1	Organic	2.7 kg/day	Municipal bin including food waste	
2	Inorganic	4.05 kg/day	TNPCB authorized recyclers	

As per CPCB guidelines: MSW per capita/day =0.45 kg/day

Table 8. 500m Radius Cluster Mine

1) Existing other quarries:

S. No.	Name of the lessee / Permit Holder	Village & Taluk	S. F. No.	Extent	Lease Period
1.	Thiru.P.Venkata	Kammandoddi	1267/2, 1268/2,	2.38.5	10.11.2017 to
	Reddy	Village &	1268/3	На	09.11.2022
		Shoolagiri Taluk			
2.	Thiru.Rajappa	Kammandoddi	1266	4.04.5	13.10.2017 to
		Village &		На	12.10.2027
		Shoolagiri Taluk			
3.	Thiru.Surendiran	Kammandoddi	1269/2A	1.66.5	13.10.2017 to
		Village &		На	12.10.2022
		Shoolagiri Taluk			
4.	Tmt.V.Renuka	Kammandoddi	1269/2B	1.27.0	13.10.2017 to
		Village &		Ha	12.10.2022
		Shoolagiri Taluk			
5.	Thiru.S.Madhu	Kammandoddi	1151 etc.,	1.27.0	06.12.2019 to
		Village &		На	05.12.2029
		Shoolagiri Taluk			

6.	Thiru.G.Ashoka	Kammandoddi	754 & 760 (Part	3.66.0	17.02.2022 to
		Village &	3)	На	16.02.2032
		Shoolagiri Taluk			

2) Proposed Area:

S. No.	Name of the applicant	Village & Taluk	S. F. No.	Extent
1.	Thiru. P.Narayanappa	Kammandoddi	754 & 760 (part-1)	1.80.0
		Village & Shoolagiri		На
		Taluk		
2.	Thiru.K.Govindhappa	Kammandoddi	754 & 760 (part-2)	2.10.0
		Village & Shoolagiri		Ha
		Taluk		
3.	Thiru.Mallikarjun	Kammandoddi	754 & 760 (part-4)	3.50.0 Ha
		Village & Shoolagiri		
		Taluk		
4.	Thiru.V.Karunanithi	Kammandoddi	754 & 760 (part-5)	4.30.0 Ha
		Village & Shoolagiri		
		Taluk		
5.	M/s Royal Blue Metals	Kammandoddi	1151, 1155, 1212 to	2.70.0 Ha
		Village & Shoolagiri	1219, 1222, 1225 &	
		Taluk	1226/A (part-1)	
6.	M/s Royal Blue Metals	Kammandoddi	1151, 1155, 1212 to	2.87.0 Ha
		Village & Shoolagiri	1219, 1222, 1225 &	
		Taluk	1226/A (part-2)	
7.	Thiru.K.Murugesh	Kammandoddi	1151, 1155, 1212 to	2.82.0 Ha
		Village & Shoolagiri	1219, 1222, 1225 &	
		Taluk	1226/A (part-3)	
8.	Thiru.S.R.Sambang	Kammandoddi	1151, 1155, 1212 to	2.23.0 Ha
		Village & Shoolagiri	1219, 1222, 1225 &	
		Taluk	1226/A (part-4)	

3) Lease Expired/Old quarries:

S. No.	Name of the applicant	Village & Taluk	S. F. No.	Extent	Lease Status
1.	Thiru.Subramani	Kammandoddi	1278/2, 1278/3,4	0.82.0	02.06.2003 to 01.06.2008 (Lease expired)

The Total extent of the Existing / Lease expired / Proposed quarries are 37.39.5 Ha

10. Land Requirement

The total extent area of the project is 2.38.5 Ha, Own Patta land in Kammandoddi Village of Shoolagiri Taluk, Krishnagiri District.

Table 9 Land Use Breakup

		PRESENT AREA	AREA IN USE DURING	
SL. NO.	LAND USE	(HECT)	THE QUARRYING	
			PERIOD (HECT)	
1.	Area under Quarrying	0.76.5	1.76.5	
2.	Infrastructure	Nil	0.01.0	
3.	Roads	0.01.0	0.01.0	
4.	Green Belt & Dump	Nil	0.60.0	
5.	Unutilized Area	1.61.0	Nil	
	Total	2.38.5	2.38.5	

11. Human Settlement

There are no habitations within 500m radius. There are villages located in this area within 5km radius of the quarry.

Table 10 Habitation

S.No	Direction	Village	Distance	Population
1	North	Koneripalli	1.8 km	200
2	South	Thirumalaigowni Kotta	1.2 km	400
3	West	Kukkala Palli	2.0 km	250
4	East	Chappadi Village	1.4 km	250

12. Power Requirement

The Rough Stone Quarry project does not require huge water and electricity for the project.

16 Litre diesel per hour for excavator for mining and loading for Rough stone needed.

13. Scope of the Baseline Study

This chapter contains information on existing environmental scenario on the following parameters.

- 1. Micro Meteorology
- 2. Water Environment
- 3. Air Environment
- 4. Noise Environment
- 5. Soil / Land Environment
- 6. Biological Environment
- 7. Socio-economic Environment

13.1 Micro - Meteorology

Meteorology plays a vital role in affecting the dispersion of pollutants, once discharged into the atmosphere. Since meteorological factors show wide fluctuations with time, meaningful interpretation can be drawn only from long-term reliable data.

i) Average Minimum Temperature : 3 3.7 °C

ii) Average Maximum Temperature. : 24.2 °C

iii) Average Annual Rainfall of the area: 922.8 mm

13.2 Air Environment

Ambient air monitoring was carried out on monthly basis in the surrounding areas of the Mine Lease area to assess the ambient air quality at the source. To know the ambient air quality at a larger distance i.e. in the study area of 5 km. radius, air quality survey has been conducted at 5 locations. Major air pollutants like Particulate Matter (PM10), Sulphur Dioxide (SO2), Nitrogen Dioxide (NO2) were monitored, and the results are summarized below.

The baseline levels of PM10 (59-35 μ g/m³), PM2.5 (28-16 μ g/m³), SO2 (13-5 μ g/m³), NO2 (28-10 μ g/m³), all the parameters are well within the standards prescribed by National Ambient Air Quality during the study period from June to August 2022.

13.3 Noise Environment

Ambient noise levels were measured at 5 locations around the proposed project site. The maximum Day noise and Night noise were found to be 55 dB(A) and 44 dB(A) respectively in Shoolagiri Police Station. The minimum Day Noise and Night noise were 49 dB(A) and 39 dB(A) respectively which was observed in Project Site & Government High School, Devasanapalli.

13.4 Water Environment

- The average pH ranges from 6.97-7.9.
- /TDS value varied from 528 mg/l to 1395 mg/l
- Hardness varied from 220 to 859 mg/1
- Chloride varied from 72.8 to 362 mg/1

13.5 Land Environment

The analysis results shows that the majority of soil in the project and surrounding area is slightly alkaline in nature and pH value ranges from 6.45 to 8.51 with organic matter 1.4 % to 4.8 %. The concentration of Nitrogen, Phosphorus & Potassium has been found to be in good amount in the soil samples.

13.6 Biological Environment

The proposed Mining lease area is mostly dry barren ground with small shrubs and bushes. No specific endangered flora & fauna exist within the mining lease area.

14. Rehabilitation/ Resettlement

- The overall land of the mine is private patta land. There are no displacement of the population within the project area and adjacent nearby area. Social development of nearby villages will be considered in this project.
- The mine area does not cover any habitation. Hence the mining activity does not involve any displacement of human settlement.

15. Greenbelt Development

- 1. The development of greenbelt in the peripheral buffer zone of the mine area.
- 2. Green belt has been recommended as one of the major component of Environmental Management Plan, which will improve ecology, environment and quality of the surrounding area.
- 3. Local trees like Vilvam, Pungam, Naval etc will be planted along the lease boundary and avenues as well as over Non-active dumps at a rate of 80 trees per annum with interval 5m.

4. The rate of survival expected to be 70% in this area

Table.11 Plantation/ Afforestation Program

Scientific Name	Local Name
Diospyro sebenum	Karungali
Aegle marmelos	Vilvam
Lagerstromia speciosa	Poo Marudhu
Toona ciliate	Sandhana Vembu
Morinda citrifolia	Vellai nuna
Pongamia Pinnata	Pungam
Prosopis cinera	Vannimaram
Syzygium cumini	Naval
Premna tomentosa	Purangai Naari
Litsea glutinosa	Pisinpattai
Chloroxylon sweitenia	Purasamaram
Strychnos potatorum	Therthang Kottai

- ➤ The development of greenbelt in the periphery of the mine area.
- ➤ Trees will be planted along the sides of the lease boundary and avenues as well as Non-active dumps at a rate of 1200 trees with an interval of 5m in 3 rows with tall and long tree species alternative rows.

16. Anticipated Environmental Impacts

16.1 Air Environment and Mitigation Measures

- 1. Water sprinkling will be done on the roads & unpaved roads.
- 2. Proper mitigation measures like water sprinkling will be adopted to control dust emissions.
- 3. Plantation will be carried out on approach roads, solid waste site & nearby mine premises.
- 4. To control the emissions regular preventive maintenance of equipments will be carried out.

16.2 Noise Environment and Mitigation Measures

- 1. Periodical monitoring of ambient noise will be done as per CPCB guidelines.
- 2. No other equipment except the transportation vehicles and excavator for loading will be allowed.

3. Noise generated by these equipments shall be intermittent and does not cause much adverse impact.

17. Responsibilities for Environmental Management Cell (EMC)

The responsibilities of the EMC include the following:

- i. Environmental Monitoring of the surrounding area
- ii. Developing the green belt/Plantation
- iii. Ensuring minimal use of water
- iv. Proper implementation of pollution control measures

18. Environmental Monitoring Program

A monitoring schedule with respect to Ambient Air Quality, Water & Wastewater Quality, Noise Quality as per Tamil Nadu State Pollution Control Board (TNPCB), shall be maintained.

19. Project Cost

The total project cost is **Rs 70,90,000** for deployment of machinery and creation of infrastructural facilities like approach road, Mine office / Workers Shed, First Aid Room etc., including electrifications and water supply

Table 12 Project Cost details

S. No.	Description	Cost
1	Project Cost	25,90,000
2	Expenditure Cost	40,00,000
3	EMP Cost	5,00,000
	Total	70,90,000

20. Corporate Environmental Responsibility

The Corporate Environment Responsibility (CER) fund will be provided to the below activity.

Table 13 CER Cost

S.No.	CER Activity	CER 2% of
3.110.	CER Activity	the project cost (Rs.)
1	Developing Sports facilitates and Providing Toilet, Water Filter	
1.	facilities to Government Schools in Kammandoddi Village	5,00,000

21. Benefits of the Project

- There is positive impact on socio-economics of people living in the villages. Mining operations in the subject area has positive impact by providing direct and indirect jobs opportunities
- The project is environmentally compatible, financially viable and would be in the interest of construction industry thereby indirectly benefiting the masses.
- Quarrying in this area is not going to have any negative impact on the social or cultural life of the villagers in the near vicinity.