EXECUTIVE SUMMARY

Project Proponent

M/s. RAGAVENDRA MINERALS AND CHEMICALS

Thiru. E. Dhanapal (Managing Partner)
No. D/364, 1st Cross, Ukkirakaliamman Koil Street,
Anna Nagar, Thennur, Trichy, Tamil Nadu – 620 017

M/s. RAGAVENDRA MINERALS AND CHEMICALS
THENNILAI LIMESTONE QUARRY

"VIOLATION" CATEGORY – MAJOR MINERAL – NON-FOREST LAND – CAPTIVE MINE

EXTENT = 2.51.5 Ha

At

Thennilai village, Kadavur Taluk, Karur district and Tamil Nadu

Complied as per TOR vide

Letter No. SEIAA- TN/F.No.6121/TOR-323/2018 Dated: 10.05.2018

Extension of ToR obtained vide
Letter No. SEIAA-TN/F.No.6121/TOR-323/Ext/ Dated: 26.09.2022
As per 440th SEAC & 697th SEIAA (Minutes of Meeting)
(ToR Valid upto 11.01.2025)

EIA Consultant
GEO EXPLORATION AND MINING SOLUTIONS
Old No. 260-B, New No. 17,
Advaitha Ashram Road, Alagapuram,
Salem – 636 004, Tamil Nadu, India
Accredited for sector 1 Category 'A' & 38 Category 'B'
QUALITY COUNCIL OF INDIA
NATIONAL ACCREDITATION BOARD FOR EDUCATION & TRAINING
Certificate No : NABET/EIA/2225/RA0276
Phone: 0427-2431989,
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Baseline Data collected by

KGS Enviro Laboratory Pvt Ltd., Chennai

Baseline Monitoring Period - December 2021 to February 2022.

1. PREAMBLE –

M/s. Ragavendra Minerals and Chemicals is a Partnership Firm registered under Indian Partnership Act, 1932 and Register of Firms No. 340/91, represented by Mr. E. Dhanapal (Managing Partner). The company was granted Limestone Mining Lease as per Proceeding Order G.O. 3(D) No. 63, Industries (MMA2) Department Dated: 19.05.1998 in Patta Land over an extent of 2.51.5ha at Thennilai Village, Kadavur Taluk, Karur District and Tamil Nadu State.

As per Gazette Notification S.O. 804(E) Dated: 14.03.2017, the proponent for their Limestone Mine submitted the Environmental Clearance Application for TOR to MoEF & CC vide online proposal No. IA/TN/MIN/63828/2017 Dated: 09.04.2017.

Later, as per Gazette Notification S.O. 1030(E) Dated: 08.03.2018, Category "B" Projects was redirected to respective SEIAA. Thus, the project proponent submitted an online proposal for Environmental Clearance vides Proposal No. SIA/TN/MIN/23051/2018 Dated: 03.04.2018 and the proposal seeking ToR was placed before the 106th SEAC – TN meeting held on 05.04.2018, the committee observed that the project falls under "B1" Category and schedule 1(a) of The EIA Notification, 2006 and recommended ToR. Further, the proposal was considered as recommended by SEAC in 296th SEIAA – TN meeting held on 10.05.2018 vide Item No. 296-5 and issued Terms of Reference (ToR) vide Lr.No.SEIAA-TN/F.No.6121/TOR-323/2018 Dated: 10.05.2018.

Proponent applied for the extension for the existing ToR vide online proposal No SIA/TN/MIN/268233/2022 Dated 16.04.2022 The proposals were considered in 309th SEAC – TN Meeting held on 02.09.2022 and issued Terms of Reference (ToR) vide **Lr.No.SEIAA-TN/F.No.6121/TOR-323/Ext/ Dated: 26.09.2022, The validity of the Terms of Reference is upto 09.05.2023**.

Again, the proposal was placed in 369th SEAC meeting held on 20.04.2023 and SEAC decided to constitute a subcommittee to make an on-site inspection to assess the present Status of the project site and Environmental settings as the proposal falls under violation category and submit the report along with the recommendations to the committee.

Further the committee called for the following additional details:

- To assess ecological damage assessment whether it is being carried out in accordance with CPCB Guidelines, remediation plan, natural resource augmentation and community resource augmentation.

After the receipt of Additional details from the PP and the evaluation report by the subcommittee, SEAC will deliberate on the issue of environmental clearance under violation category. SEAC also

decided to request SEIAA-TN to initiate action under sec-19 of the Environment (Protection) act, to be taken for violation cases, in accordance with law and the proposal was placed in 616th SEIAA meeting held on 10.05.2023.

The view of the above, the authority accepts the decision of SEAC and decided to request the member secretory SEIAA to communicate the SEAC minutes to the PP and to write to the state govt\TNPCB to take credible action under the provision of Sec – 19 of the Environment (Protection) act, 1986 against the Project Proponent as per the EIA notification.

The Proposal was placed in 416th SEAC meeting held on 13.10.2023 and as per the 416th SEAC &670th SEIAA Minutes of Meeting During the meeting, SEAC has decided to direct the PP to conduct the Public hearing for the above proposal.

Therefore, after the long deliberation and discussions in the 416th SEAC meeting, The SEAC has observed that the Public hearing is mandatory for all mining projects of Major Minerals category irrespective of the area for ensuring the scientific and systematic mining and the conservation minerals. The SEAC decided to direct the PP to conduct the Public hearing as per the procedure described in EIA notification 2006 and submit the minutes of the public hearing with action plan for considering the application\proposal towards the grant of EC.

After the receipt of the minutes of the Public Hearing along with updated Final EIA Report submitted by the PP along with a valid Mining Lease. and approved Mining Plan/Scheme of Mining including the PMCP/FMCP for the proposed mining operations, the SEAC may deliberate the future course of action.

Again, the Proposal was placed in 440th SEAC meeting held on 11.01.2024 and as per the 440th SEAC &697th SEIAA Minutes of Meeting. The proponent requested to extend the validity of ToR to conduct Public Hearing and to update the EIA Report accordingly. since the validity of ToR issued is about to expire on 09.05.2023. The Committee after detailed discussion,

SEIAA may write a letter to TNPCB to consider the above-mentioned cases as a special case and shall be requested to conduct public hearing as per the procedure laid down in EIA Notification, 2006 with the updated baseline data along with EIA report and shall be completed within 1 year from the date of issue of letter.

This proposal was placed in 697th SEIAA meeting and after detailed discussions, the Authority decided to grant extension of ToR for further period of 1 year i.e. up to 11.01.2025 as recommended by SEAC. All the other conditions stipulated in the ToR Lr.No.SEIAA-TN/F.No.6121/TOR-323/Ext/ Dated: 26.09.2022, issued under violation category

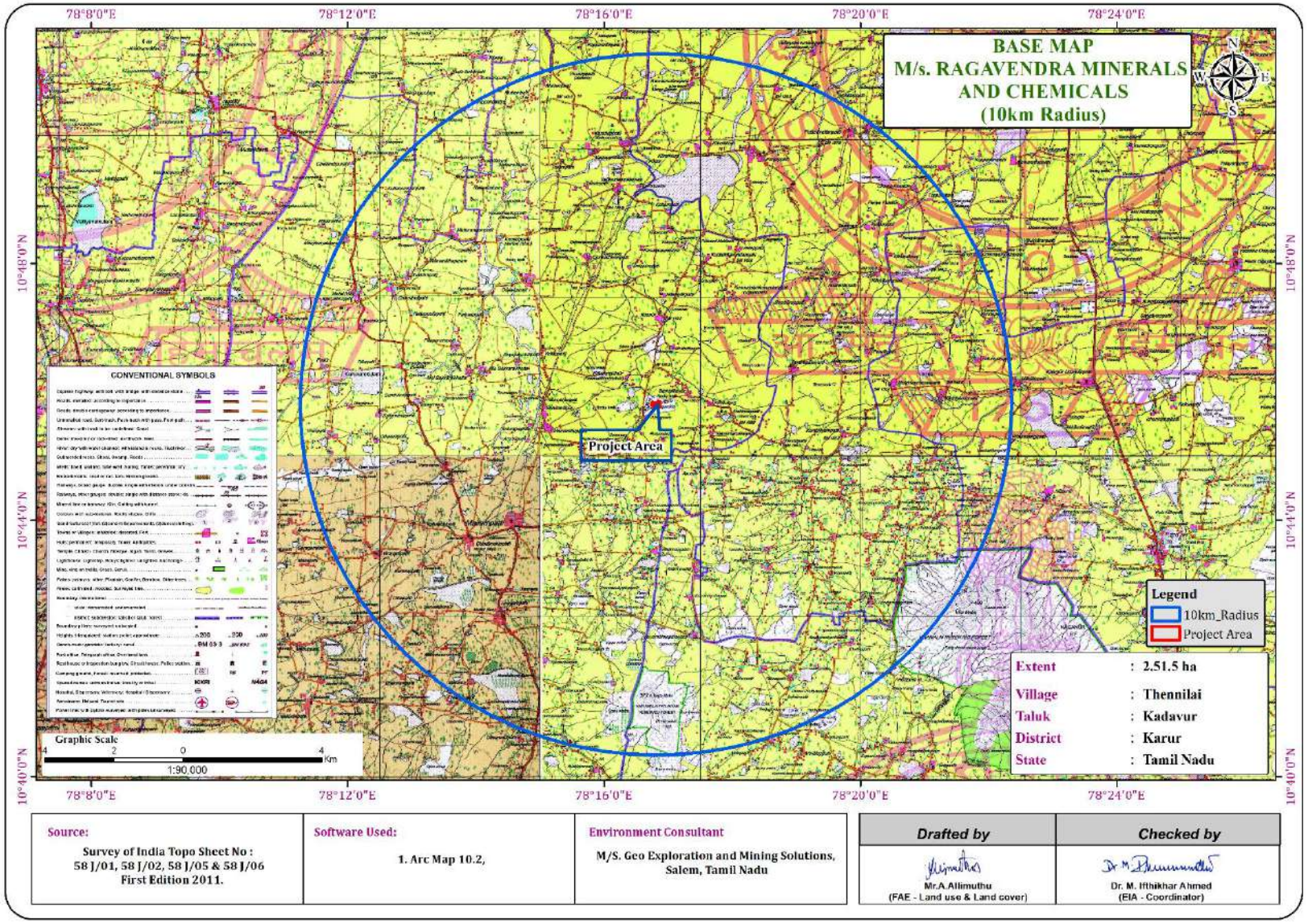
Now, as per MMDR Amendment Act 2015, the validity of lease period is extended upto 11.11.2048 and Review of Mining Plan & Progressive Mine Closure Plan was prepared by RQP and approved by Regional Controller of Mines, Indian Bureau of Mines, Chennai vide Lr.No TN/KRR/ROMP/LST-1713.MDS Dated 25.08.2023

As per Gazette Notification S.O. 1886 (E) of 20th April 2022, Mining Projects are classified under two categories i.e. A (> 250 Ha) and B (< 250 Ha), Category-A projects (including expansion and modernization of existing projects) require Environmental Clearance from Central Government (Ministry of Environment, Forests and Climate Change, Government of India, New Delhi) while Category–B projects are considered by State Level Environmental Impact Assessment Authority (SEIAA), constituted by MoEF&CC, New Delhi. If incase, any Category "B" project attracts the "General Condition" given in the EIA Notification, it shall be treated as Category "A" and will be considered at MoEF&CC, New Delhi.

This EIA report is prepared for M/s. RAGAVENDRA MINERALS AND CHEMICALS Thennilai Limestone Mine– Extent 2.51.5 ha with proposed capacity of 3,06,592 tonnes (ROM-2023-24 to 2027-28) at S.F. No. : 809/2, 3, 4 & 5 (P) in Thennilai Village, Kadavoor Taluk, Karur District and Tamil Nadu State. The project falls under category "B" and requires Environmental Clearance from SEIAA Tamil Nadu.

In order to assess the likely impacts arising out of the project, the Environmental Impact Assessment (EIA) study is undertaken, which will be followed by preparation of a detailed Environmental Management Plan (EMP) to minimize those adverse impacts.

FIGURE : 1 BASEMAP OF THE STUDY AREA 10KM RADIUS



2. PROJECT DESCRIPTION –

- The Mine Lease area over an extent of 2.51.5ha is located in 809/2, 3, 4 & 5 (P) Patta land in Thennilai Village, Kadavur Taluk, Karur District and Tamil Nadu State.
- The Topography of the area is almost flat terrain with general gradient towards south; the mine lease area is about 174m AMSL Latitude between 10°45'45.74"N to 10°45'50.55"N and Longitude between 78°16'45.07"E to 78°16'52.49"E and ground water table occurrence at 134m – 137m AMSL.
- The Review of Mining Plan (2018-19 to 2022-23) was prepared and submitted for a quantity of available Geological Resources of 6,84,528 Ts (ROM), Mineable reserves is about 3,06,602Ts of ROM and Limestone recovery @ 60% 1,83,961 Ts the quantity was approved by Indian Bureau of Mines vide Letter No. Lr.No TN/KRR/ROMP/LST-1713.MDS Dated 25.08.2023
- Anticipated Quantity of Limestone with 60% recovery is about 1, 83,961 Ts for the period of 2018-19 to 2022-23.
- Anticipated quantity of Top soil for this plan period (2018-19 to 2022-23) is 19,960Ts. The topsoil will be removed in the period of 2018-19 & 2019-20 is about 11,896Ts and temporarily dumped in West side of the area with the dimension of 33m (L) x 15m (W) x 12m (H). The top soil generated in the year of 2020-21 will be spread out in the backfilled area for greenbelt development.
- The waste is in the form of mineral rejects (40% from the ROM) and side burden, about 2, 02,118 Ts is anticipated in this plan period. The waste will be temporarily dumped in the earmarked area, and simultaneously backfilled as proposed in the Review of Mining plan.
- The mined out quantity of limestone will be transported to needy cement and lime based industries after manual segregation.
- Opencast, Category "A" other than fully Mechanized Mining with:
    - Existing Pit Dimension – 155m (L) x 80m (W) x 18m (D)
    - The Ultimate Pit Dimension – 200m (L) x 92m (W) x 33m (D)
    - Proposed Bench Height is about 4 Meters and Bench Width is 6 Meters with 60° Slope.
- Short-hole drilling of 32-35 mm diameter by jackhammer drills with Air Compressor.

- At the end of life of mine the excavated mine pit will be partially backfilled with mineral rejects dumps and part of the pits will be allowed to collect rain water which will act as a temporary reservoir.
- Project has provided direct employment opportunities to 28 peoples and indirect employment opportunities within the surrounding region for about 50 peoples in the field of Mineral transport, service sector, garages, shops/canteen, etc.,
- Existing greenbelt area is 800 Sq.m; proposed area for greenbelt development is 2000 Sq.m; greenbelt area at the end of life of mine is 2800 Sq.m. It is proposed to plant predominant local species of Neem with anticipated survival rate of 70%.
- The project does not require power supply for the mining operations, but Electricity for use in office premises and other internal infrastructure will be obtained from SEB. The Mining activity is proposed during day time only General Shift 8 AM – 5 PM (Lunch Break 1 PM – 2 PM).
- The Project Site is well connected to
    - National Highway– (NH 67) Karur – Trichy – 20.0Km North.
    - State Highway (SH 199) Puliyur – Uppidimangalam – 6Km South West
    - Railway Station – Kulithalai– 24Km East
    - Airport – Trichy Airport – 47 Km East.
    - Sea port – Tuticorin 217 Km South
- There is No Protected Areas Notified under The Wild Life (Protection) Act, 1972, Critically Polluted Areas as notified by the Central Pollution Control Board constituted, Notified Eco-Sensitive Areas, Interstate boundaries and International Boundaries, besides there are No National Parks, Reserve Forest, Biosphere Reserves, Elephant Corridors, Mangrove Forest, Archeological Monuments, Heritage Site etc. within 10 Km Radius from Project Site.
- The Nearest water bodies are P. Udayapatti Kulam 3.5 Km – North West, Perumaan Kulam 3.5 Km North West.
- The proponent has been carrying out CSR Activities in various fields for social welfare around the project site and will continue to do. The proponent has spent an amount of Rs 15 Lakhs till date.

- The Seismic Sensitivity of the project area is categorized as Zone II, Low Damage Risk Zone as per BMTPC, Vulnerability Atlas of Seismic Zone of India IS: 1893 – 2002.

FIGURE – 2: TOPOGRAPHICAL VIEW OF LEASE AREA

FIGURE – 3: GOOGLE IMAGE SHOWING CLUSTER (500 m QUARRIES)

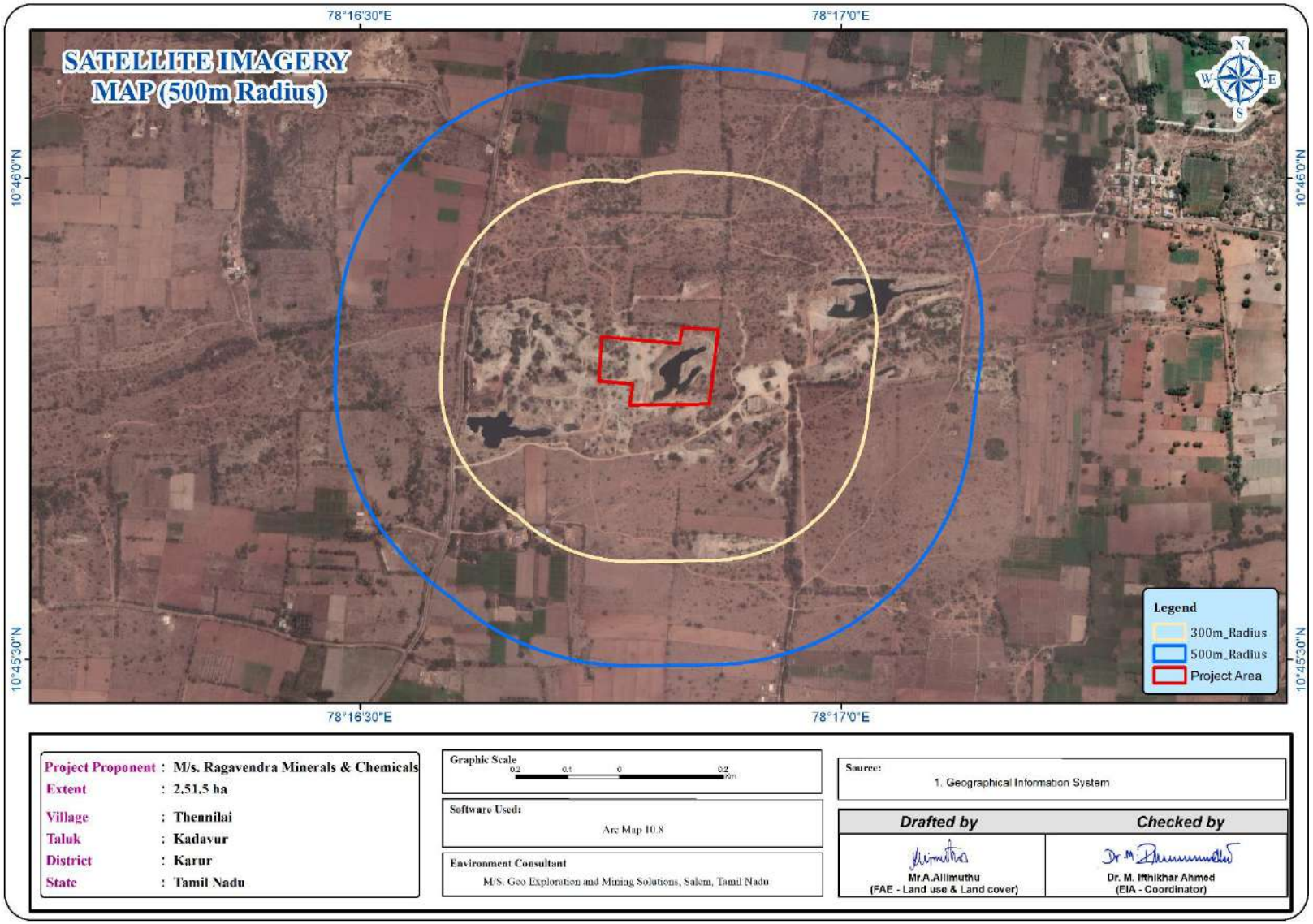


FIGURE – 4: TOPOSHEET MAP COVERING 10 KM RADIUS

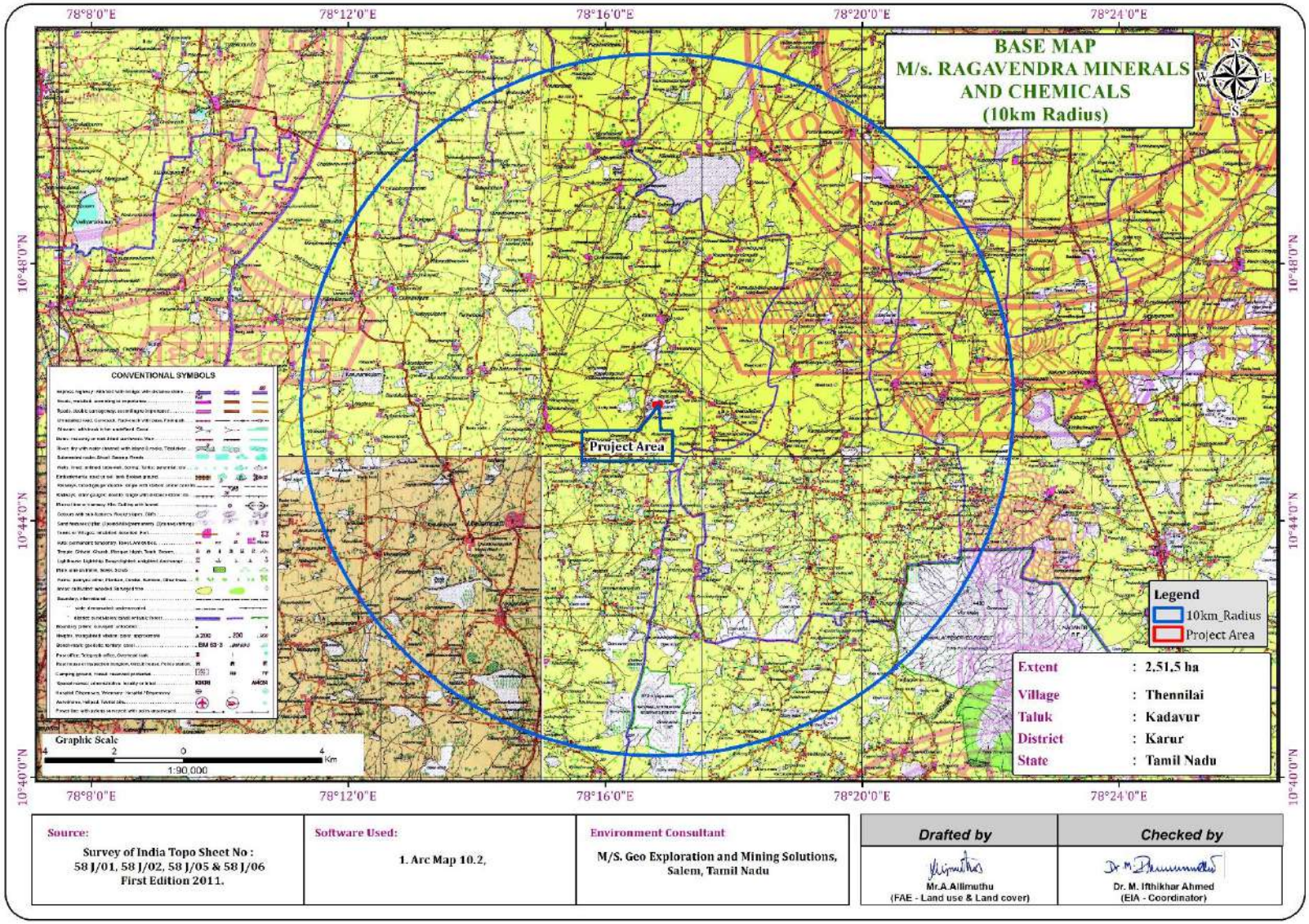
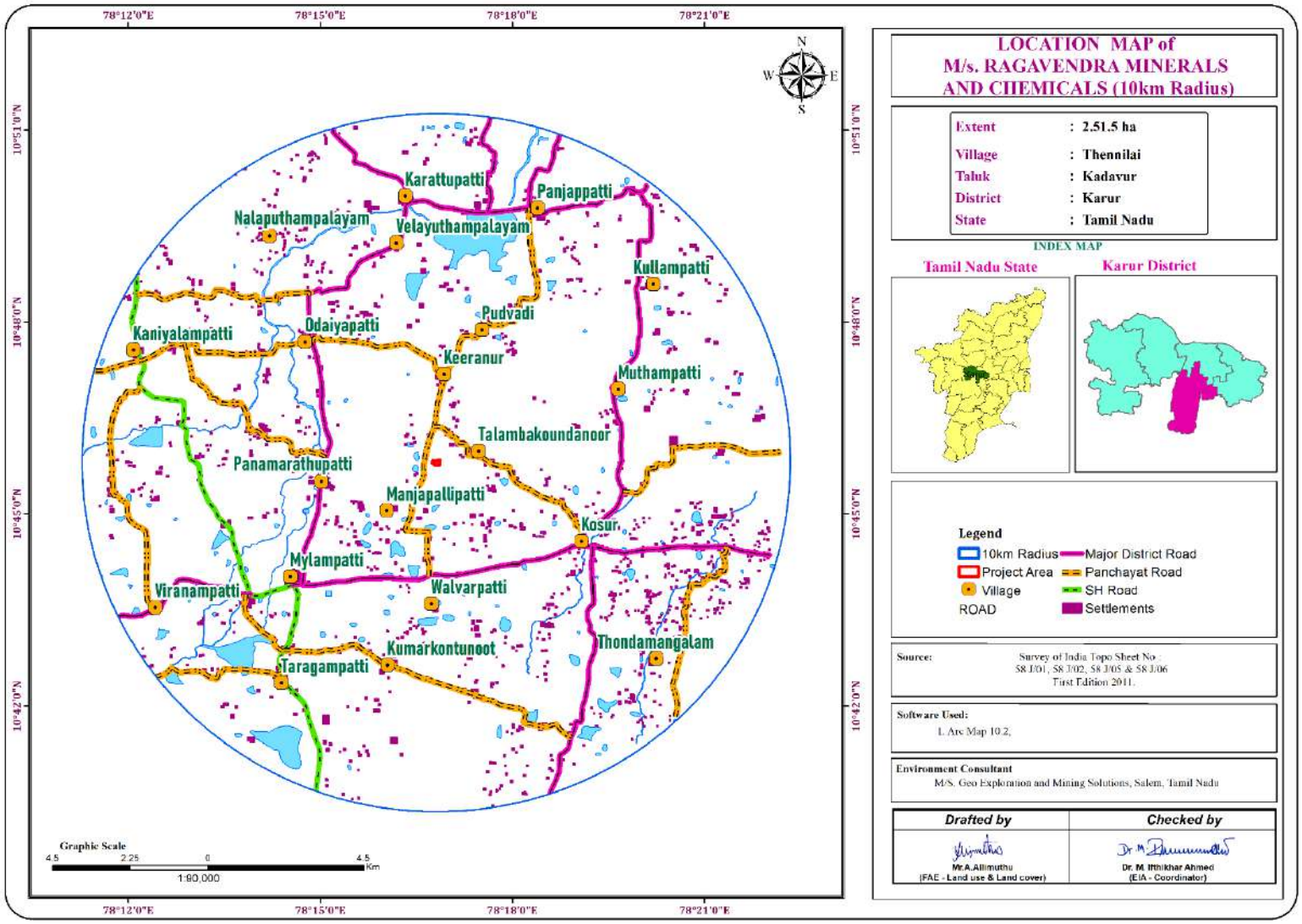


FIGURE – 5 : LOCATION MAP 10 Km RADIUS



3. DESCRIPTION OF THE ENVIRONMENT –

Baseline data generation forms a part of the Environment Impact Assessment Study, which helps to evaluate the predicted impacts on the various environmental attributes and helps in preparing an Environmental Management Plan (EMP) outlining the measures for improving the environmental quality and scope of future expansions for environmentally sustainable development.

Baseline data was generated for various environmental parameters including air, water (surface and ground water), land and soil, ecology and socio-economic status to determine quality of the prevailing environmental settings. The Base Line Study was conducted during Post - monsoon (December 2021-February 2022).

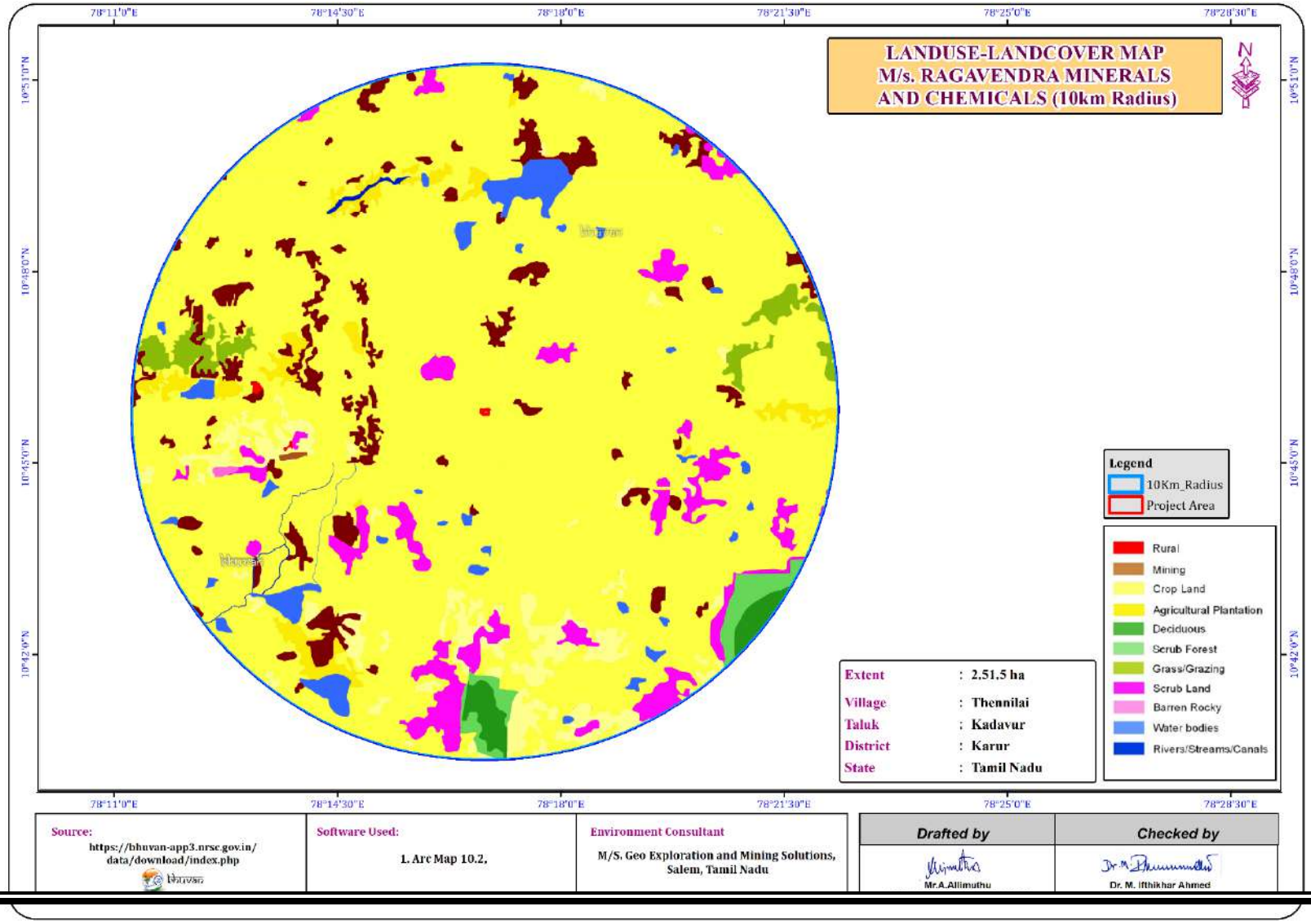
3.1 Land Environment

Land use pattern of the area was studied through the Bhuvan (ISRO) by covering 10 Km radius from the periphery of the project site. Majority of the land covered in the study area is Agriculture Land – 86.10%, Barren land – 4.18%, Mining Area – 0.65% from this Total Mining area the project area covers 19%. Existing land use pattern of the project area is Dry Barren Land, Patta Land, No Forest Land is involved.

TABLE 3.1: LANDUSE COVER TABLE 10KM RADIUS

Sl.No	Classification	Area in ha.	Area in %
1	Grass/Grazing	391.84	1.22
2	Forest, Scrub Forest	302.54	0.94
3	Forest, Deciduos	241.62	0.75
4	Wetlands/Water Bodies, Reservoir/ Lakes/ Ponds	693.09	2.15
5	Wetlands/ Water Bodies, River/ Stream/ Canals	62.60	0.19
6	Barren/ Unculturable/ Wasteland, Barren Rocky	16.60	0.05
7	Barren/ Unculturable/ Wastelands, Scrub Land	1331.90	4.13
8	Agriculture, Plantation	573.15	1.78
9	Builtup, Mining	16.56	0.05
10	Buitup, Rural	1423.89	4.42
11	Agricultural, Crop land	27180.84	84.32

FIGURE- 6: LAND USE LAND COVER MAP OF THE STUDY AREA



Soil Environment

It is observed that the pH of the Soil ranging from 8.55 to 8.62 indicating that the soils is Highly Alkaline in nature. The Electrical Conductivity of the Soil ranges from 370 to 555 indicating Low Conductivity. The concentration of Nitrogen is in the range 135 Kg/hec to 195 Kg/hec and the Potassium ranges 23 mg/kg to 45 mg/kg which are very low in concentration. The concentration of Chlorides is ranging from 124 to 210 mg/kg which are found to be on the higher side, this is due to the dispersion of chlorides from the limestone to the nearby areas. The soil found in the area is semi fertile soil.

3.2 Water Environment –

Surface Water

Ph:

The pH varied from 7.19 to 7.28 while turbidity found within the standards (Optimal pH range for sustainable aquatic life is 6.5 to 8.5 pH).

Total Dissolved Solids:

Total Dissolved Solids varied from 380 to 421 mg/l, the TDS mainly composed of carbonates, bicarbonates, Chlorides, phosphates and nitrates of calcium, magnesium, sodium and other organic matter.

Other parameters:

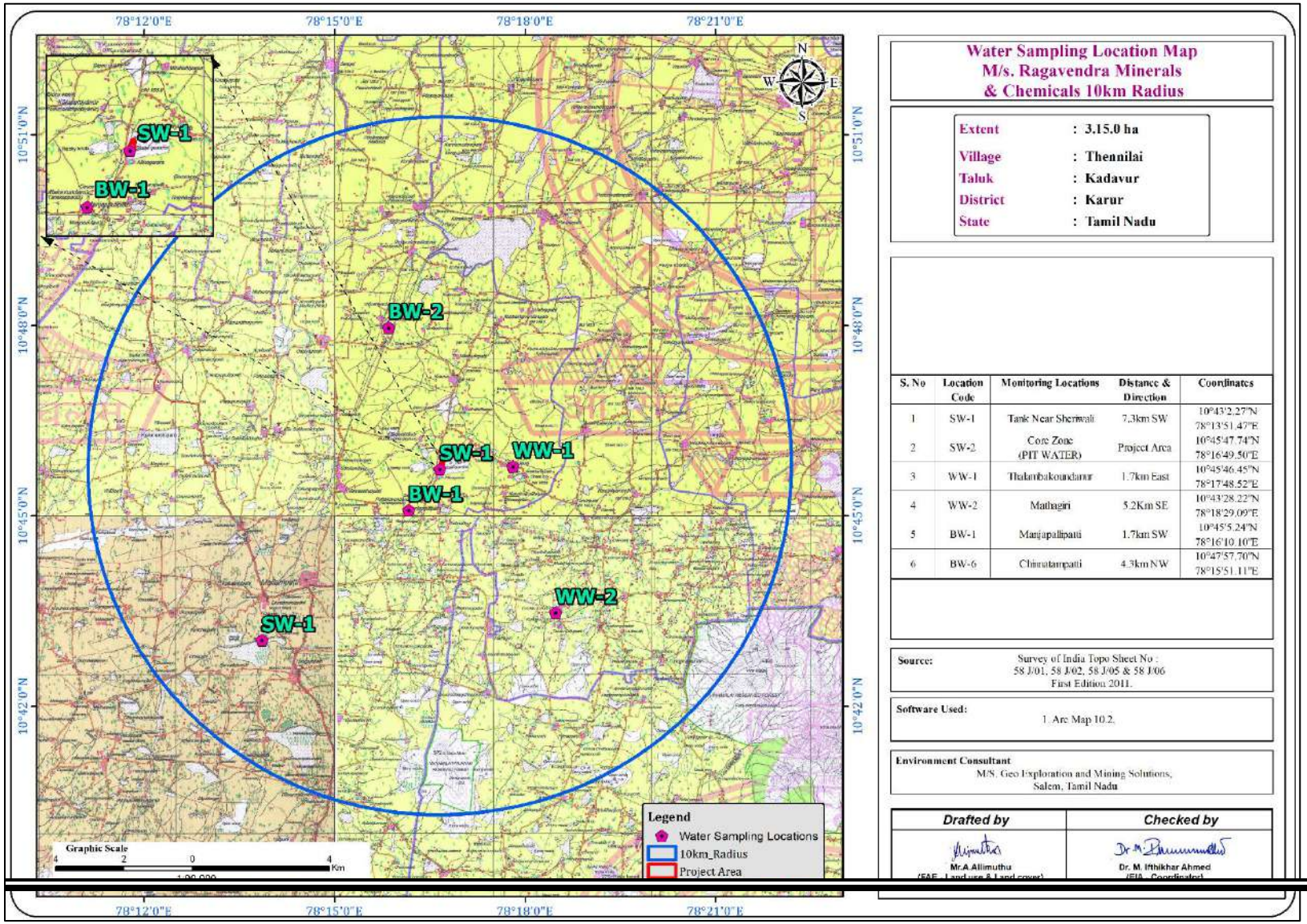
Chloride content is 84.6 - 110 mg/l. Nitrates varied from 5 to 7.5 mg/l, while sulphates varied from 31 to 34.1 mg/l.

Ground Water

The pH of the water samples collected ranged from 6.68 to 7.17 and within the acceptable limit of 6.5 to 8.5. pH, Sulphates and Chlorides of water samples from all the sources are within the limits as per the Standard. On Turbidity, the water samples meet the requirement. The Total Dissolved Solids were found in the range of 340 - 371 mg/l in all samples. The Total hardness varied between 116.1 – 151.5 mg/l for all samples.

On Microbiological parameters, the water samples from all the locations meet the requirement. The parameters thus analyzed were compared with IS 10500:2012 and are well within the prescribed limits. The heavy metal content has been found to be well within the limit. The physio-chemical and biological analysis revealed that these waters are well within the prescribed limits as per CPCB standard.

FIGURE -7: WATER QUALITY MONITORING LOCATION



S. No	Location Code	Monitoring Locations	Distance & Direction	Coordinates
1	SW-1	Tank Near Sherivali	7.3km SW	10°43'2.27"N 78°13'51.47"E
2	SW-2	Core Zone (PIT WATER)	Project Area	10°45'47.74"N 78°16'49.50"E
3	WW-1	Thalambakoundanur	1.7km East	10°45'46.45"N 78°17'48.52"E
4	WW-2	Mathagiri	5.2Km SE	10°43'28.22"N 78°18'29.09"E
5	BW-1	Manjapallipatti	1.7km SW	10°45'5.24"N 78°16'10.10"E
6	BW-6	Chinnatampatti	4.3km NW	10°47'57.70"N 78°15'51.11"E

3.3 Air Environment –

Meteorology (Climate) –

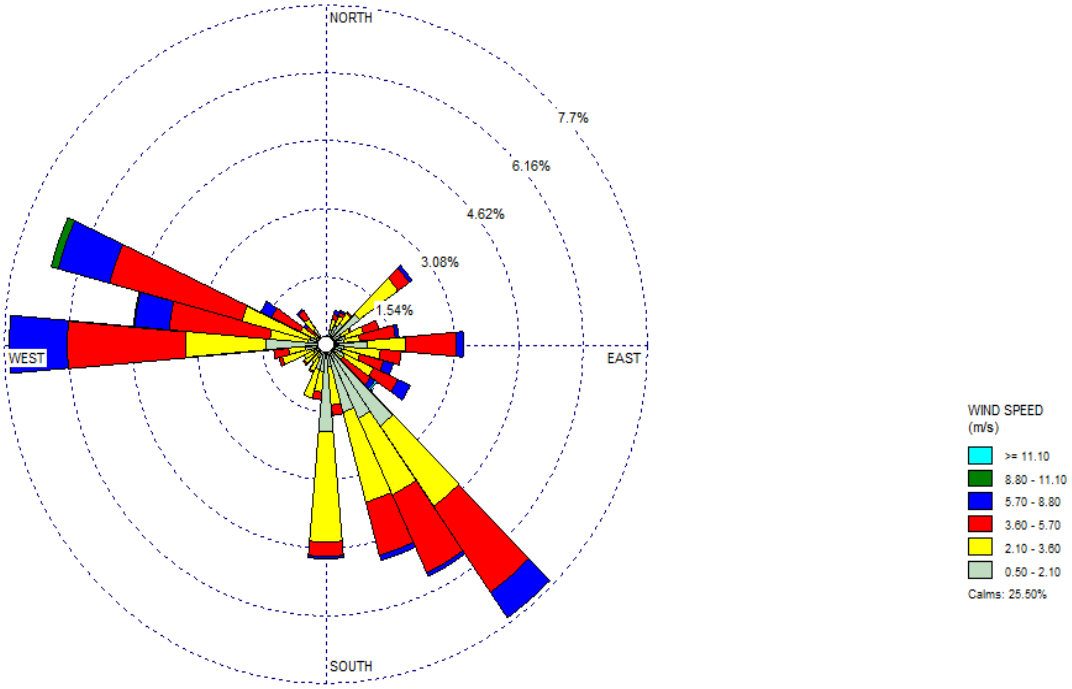
The prevailing climate in Karur is known as a local steppe climate. During the year, there is little rainfall in Karur. According to Köppen and Geiger, this climate is classified as BSh. The average temperature in Karur is 28.7 °C. The average annual rainfall is 595 mm. The driest month is March. There is 8 mm of precipitation in March. Most precipitation falls in October, with an average of 166 mm. With an average of 31.5 °C, May is the warmest month. In December, the average temperature is 25.6 °C. It is the lowest average temperature of the whole year. The precipitation varies 158 mm between the driest month and the wettest month. The average temperatures vary during the year by 5.9 °C. The nearest IMD station is Karur paramathy vide index No KPM -43342.

Air quality Monitoring -

Ambient Air quality Stations were selected based on the Predominant downwind direction in respect to the project site. eight Ambient Air Quality Monitoring (AAQM) Stations were selected by considering the wind rose pattern for Post-monsoon season and the accessibility of the selected sites.

- The 98th Percentile Value of PM_{10} varies between 38.7 μg/m^3 at Mathagiri Village to 46.7 μg/m^3 at Project Area
- The 98th Percentile Value of $PM_{2.5}$ varies between 19.60 μg/m^3 at Mathagiri Village to 26.70 μg/m^3 at Project Area
- The average concentration of SO_2 and NO_2 varies between 6.8 μg/m^3 and 21.8 μg/m^{3}at Chinnatampatti Village to 8.6 μg/m^3 to 24.4 μg/m^3 Project Area; respectively.
- The concentrations of PM_{10}, $PM_{2.5}$, SO_2 and NO_2 are observed to be well within the NAAQ standards prescribed by Central Pollution Control Board (CPCB) for industrial and rural/residential zone.

- **FIGURE – 8: WIND ROSE DIAGRAM**

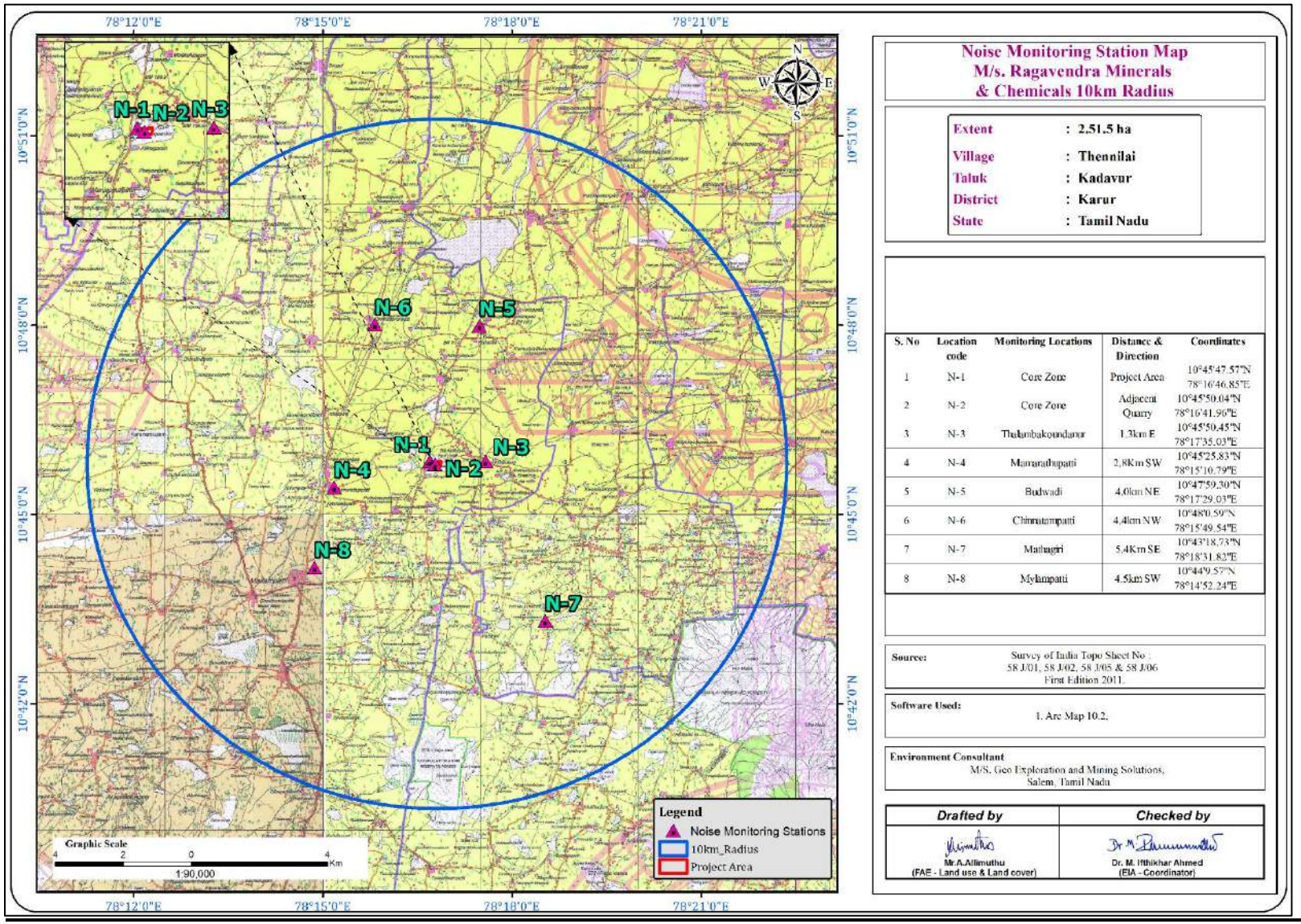


3.4 Noise Environment –

- Baseline noise levels were monitored at 8 locations, using continuous noise measurement device. Day levels were monitored during 6 AM to 10 PM and the night levels during 10 PM to 6 AM.
- The day equivalents during the study period are ranging between 31.2 dB (A) to 47.1 dB (A).
- The night equivalents were in the range of 31.2 dB (A) to 42.1 dB (A).

From the results, it can be seen that the Day equivalents and the Night equivalents were within the Ambient Noise Standards of Industrial / Commercial / Residential Area.

FIGURE -9: NOISE MONITORING LOCATION MAP



S. No	Location code	Monitoring Locations	Distance & Direction	Coordinates
1	N-1	Core Zone	Project Area	10°45'47.57"N 78°16'46.85"E
2	N-2	Core Zone	Adjacent Quarry	10°45'50.04"N 78°16'41.96"E
3	N-3	Thalambakoundanur	1.3km E	10°45'50.45"N 78°17'35.03"E
4	N-4	Mamarathupatti	2.8Km SW	10°45'25.83"N 78°15'10.79"E
5	N-5	Budwadi	4.0km NE	10°47'59.30"N 78°17'29.03"E
6	N-6	Chinnatampatti	4.4km NW	10°48'0.59"N 78°15'49.54"E
7	N-7	Mathagiri	5.4Km SE	10°43'18.73"N 78°18'31.82"E
8	N-8	Mylampatti	4.5km SW	10°44'9.57"N 78°14'52.24"E

3.5 Biological Environment –

Ecological survey has been carried out to understand baseline ecological status, important floristic elements and fauna structure. There are No Schedule – I Species listed as per The Indian Wildlife (Protection) Act, 1972 or Threatened Species as per IUCN Red List noticed within the Study Area.

Socio Economics –

Sample survey was carried out to collect qualitative information about the socio- economic environment of the area. The Study area has all basic amenities such as roads, drinking water facilities, township, education institution, temples, medical facilities and electricity facilities and was evident during the site visit.

Though agriculture is the main occupation in the surrounding villages, it has provided employment opportunities to only 50-60% of the families. The remaining population is depended on the other type of employment opportunities mainly as laborers.

4 ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES –

4.1 Land Environment:

In the Opencast Mining method, the major impact is Land Environment, the existing land use pattern of the area is dry barren land, no forest land is involved in this project. Total extent of 2.51.50 ha about 1.84.0ha area is proposed for Mining activity which will have the impact during the mining activity. After end of the mine the mined out pit will be allowed to store the rain water which act as a temporary reservoir. Total area of 2,800 sqm is proposed for green belt development.

There is no vegetation found in the project area at present, after the completion of the mining operation the rate of the green belt development will be increased in the project site.

4.2 Water Environment

The proposed depth for the mining operation is well above the water table, there is no intersection of surface water (streams, Canal, Odai etc.,) within the study area.

Mitigation Measures –

- Construction of garland drains to divert surface run – off in to the mining area

- Construction of check dams / gully plugs at strategic places to arrest silt wash off from broken up area.

4.3 Air Environment–

The air borne particulate matter generated by mining operations and transportation is the main air pollutant. The emissions of Sulphur Dioxide (SO_2), Nitrogen Oxides (NO_2) contributed by vehicles plying on haul roads will be marginal.

The Predicted maximum Ground level concentration of 24 Hour average of particulate matter concentration is superimposed on the maximum baseline concentration obtained during the study period to estimate the post project scenario, which would prevail at the post operational phase.

The maximum incremental ground level concentration of PM_{10} is 47.60μg/m^3 – Project area and 39.2μg/m^3 – Mathagiri village. This shows that the adverse impact of mining outside the ML area is marginal and has no adverse effect on health of human and animals and also on the flora of the area.

Mitigation Measures –

- Water spraying on working face to control dust emission from loading & handling operations
- Water sprinklers along the mine haulage roads to reduce dust generation during plying of HEMM
- Controlled blasting techniques will be implemented
- Periodic water sprinkling on waste dumps and haul roads to minimize dust emissions.
- Practicing wet drilling & Dust mask provision to workers
- Avoiding of overloading of tippers and covering of loaded tippers with tarpaulins during ore transportation
- Green belt development will be carried out to arrest the dust particles.
- Periodical monitoring of air quality to take steps to control the pollutants

4.4 Noise Environment

Noise pollution is mainly due to the blasting, Operation of machineries and Occasional plying of tippers in the mines.

Mitigation Measures –

- In the high noise intensity working areas, earmuffs or earplugs or any other suitable personal protective equipment will be provided to the workers.
- Regular noise level monitoring shall be done periodically for taking corrective action.
- Controlled blasting techniques will be implemented; Noise due to the blasting from the mine site not going to be significant it will be upto a few seconds in the whole day.
- Green belt development around the mine site, office buildings and all along the internal road will be practiced as to create a barrier between the source and the receiver so that the noise is absorbed and the exposure level is minimized.

4.5 Biological Environment

The impact on biodiversity is minimal as there is no forest, wild life sanctuaries, and Eco sensitive zone within the radius of 10 Km.

The impact would be due to dust generated from drilling and blasting activities and emission of gaseous pollutant from HEMM. Adequate dust control measures will be taken to control dust emission. Thick Greenbelt development will be carried out in the mine area and haul roads to control the dust emission. Besides the air quality standards for PM_{10}, $PM_{2.5}$, SO_2 and NO_x are within the AAQ standards.

4.6 Socio Economic Environment.

Due to this mining activity 28 numbers of skilled and unskilled workers are benefitted through direct employment. About 50 numbers of peoples will be get employment opportunities indirectly. Additional facilities such as medical, educational and infrastructural development will also take place under CSR/CER activities.

Considering the socio – economic and sociological impact it is concluded that the economic level and living standard of the people will generally increase.

5 ANALYSIS OF ALTERNATIVES (TECHNOLOGY AND SITE)

Site Alternatives –

No alternative site has been proposed as Limestone occurrence is site specific in nature and the location of the proposed project is restricted to the geology and mineral deposition of the area.

Mining Technology alternatives –

Mining will be carried out through Open cast category "A" other than fully mechanized mine, as it is more economically viable, and preserves the conservation of minerals and environment. Unlike other industries, the project cannot be shifted to other sites.

The project will follow opencast mining method because of surface mineral deposits and to ensure higher mineral conservation. The mining by opencast method will be highly productive & economical as compared to underground method.

6 ENVIRONMENT MONITORING PROGRAM –

Usually, an impact assessment study is carried over short period of time and the data cannot bring out all variations induced by natural or human activities. Hence regular monitoring program of Environmental parameters is essential to take into account the changes in the Environment. The Objective of Monitoring -

- To check or assess the efficiency of the controlling measures;
- To establish a data base for future impact assessment studies.

7 ADDITIONAL STUDIES - RISK ASSESSMENT & HAZARD –

The components associated with risk and hazard in this mining case include drilling & blasting, waste dump, heavy earth moving machinery and explosive storage. Measures to reduce and avoid any incidents occurring from the above mentioned components shall be planned and implemented as soon as the mine starts commissioning; this includes measures to avoid the above discussed risk factors. Proper risk management plan will be proposed to avoid any kind of accident/ disaster.

8 PROJECT BENEFITS –

- Improvement in physical infrastructure
- Improvement in Social Infrastructure
- Employment Potential
- Proponents will carry out CSR activities like community awareness program, health camps, medical aid, family welfare camps etc.,
- A massive plantation will be done in the mine area to mitigate the ill-effects of mining and to improve the vicinity and environment of mine and its surrounding area.

9 ENVIRONMENTAL COST BENEFIT ANALYSIS.

Environmental cost benefit analysis is not recommended.

10 ENVIRONMENT MANAGEMENT PLAN –

The Environmental Management Plan (EMP) is a site-specific plan developed based on the base line environmental status, mining methodology and environmental impact assessment. In each of the areas of impact, measures have to be taken to reduce potentially significant adverse impacts and where these are beneficial in nature, such impacts are to be enhanced/ augmented so that the overall adverse impacts are reduced to as low level as possible.

The proponent shall organize an Environment Monitoring Cell which is responsible for the management and implementation of the environmental control measures. Basically, this department shall supervise the monitoring of environmental pollution levels like ambient air quality, water quality, soil quality and noise level by appointing approved external agencies.

The working condition in the mines is governed by the enactments of the Director General of Mines Safety (DGMS). The proponent shall take all necessary precautions regarding health and safety of workers as per the guidelines of the Mines Act, sanitary facilities shall be provided within the lease area and periodic health check-up will be carried out to all the workers.

The proponent will carry out CSR activities for overall development of the peoples/society in the area. The activities shall include medical camps, water supply, improvement of school infrastructure, etc., The proponent has been carrying out CSR Activities in various fields for social welfare around the project site and spent an amount of Rs 5 Lakhs till date.

11 CONCLUSION –

It can be concluded from overall assessment of the impacts, in terms of positive and negative effects on various environmental components, that the mining activities will not have any adverse effect on the surrounding environment.

To mitigate any impacts due to the mining activities, a well-planned EMP and a detailed post project monitoring system is provided for continuous monitoring and immediate rectification at site. Due to the mining activities, socio economic conditions in and around the project site will be improved substantially. Hence, the Environmental Clearance shall be granted at the earliest.