# ENVIRONMENTAL IMPACT ASSESSMENT REPORT & ENVIRONMENT MANAGEMENT PLAN of

# **Executive Summary English**

M/s. Starex Minerals (Gondpendri Limestone Mine)

at

Village: Gondpendri, Tehsil: Patan, District: Durg, State: Chhattisgarh,

Area 4.78 ha at

Khasra No: - 342, 347, 348, 349/2, 350, 355, 357, 358, 359/1, 359/2, 359/3, 360, 492/1,

492/2, 356/1, 356/2

Capacity: 4,99,346 Tons per annum

Proposal No. SIA/CG/MIN/231865/2021

# **Applicant**

M/s. Starex Minerals (Prop. Shri Vazir Singh)



### **EXECUTIVE SUMMARY**

#### **INTRODUCTION**

Environmental Impact Assessment (EIA) is a process, used to identify the environmental, social and economic impacts of a project prior to decision-making. It is a decisio making tool, which guides the decision makers in taking appropriate decisions for proposed projects. EIA systematically examines both beneficial and adverse consequences of the proposed project and ensure that these impacts are taken into account during the project designing.

The mining lease is located in Village – Gondpendri Tehsil - Patan, District- Durg State – Chhattisgarh. Geo-graphically the ML area extends from Longitude E 81°26'58.60" to E 81°26'59.15" and Latitude N 21° 05'45.98" to N 21° 05'44.32"

The study area of the proposed project comprises of 10 km radius around the mining lease boundary, the map showing the core zone (QL area) and buffer zone (10 km radius from the lease boundary).

The life of the mine is anticipated at 4 years based on the level of exploration and reserve established as per UNFC classification and expecting the market demand will remain at 4,99,346 Tonnes per Annum.

#### Location

The mining lease is located in Village – Gondpendri Tehsil - Patan, District- Durg State – Chhattisgarh. Geo-graphically the ML area extends from Longitude E  $81^{\circ}26'58.60''$  to E  $81^{\circ}26'59.15''$  and Latitude N  $21^{\circ}$  05'45.98" to N  $21^{\circ}$  05'44.32"

#### **Connectivity**

The QL area can be approached from State Highway 22 which is at a distance of 1.50 km. The Nearest Railway Station is Durg Railway Station about 19.86 km. Swami Vivekananda Airport 31.55 km in NE direction.

#### Mailing/Correspondence Address of Project Proponent:

M/s. Starex Minerals Prop/Shri Vajir Singh JS Heights, Dhamdha Road, Vill: Khapri Dist: Durg (C.G.)

#### Size of the Project

The total Mine Lease areas considered is (4.78 ha). The proposed production is 4,99,346 Tonnes per Annum

## Anticipated Life of Project and Cost of the Project

The life of the mine is anticipated at 4 years based on the level of exploration and reserve established as per UNFC classification and expecting the market demand will remain at 4,99,346 Tonnes per Annum.

#### **MINING**

Opencast semi mechanized method of mining will be adopted in the lease area. The excavation will be carried out usually by manual labour and small machines with the use of jack hammer, compressor, etc. and loaded into tractor/truck/tipper. The Limestone will be suitably blended to be supplied in market. Rest is inner burden.

#### **Production Plans for Five Years**

# Year wise proposed Production for the first five years is tabulated below.

| Year                    | Area<br>(sqm) | Depth<br>(m) | ROM<br>(Cum) | Net<br>Volume<br>95% of<br>ROM | B.D. | Production<br>(Tonnes) | Net<br>production<br>(Tonnes) | Av. bench<br>level<br>(mRL) |
|-------------------------|---------------|--------------|--------------|--------------------------------|------|------------------------|-------------------------------|-----------------------------|
|                         | 20,000        | 1.5          | 30,000       | 28,500                         | 2.5  | 71,250                 |                               | 305-303.5                   |
| 1 <sup>st</sup>         | 14,400        | 1.5          | 21,600       | 20,520                         | 2.5  | 51,300                 | 1,76,700                      | 303.5-302                   |
| Year                    | 9,600         | 1.5          | 14,400       | 13,680                         | 2.5  | 34,200                 | 1,76,700                      | 302-300.5                   |
|                         | 5,600         | 1.5          | 8,400        | 7,980                          | 2.5  | 19,950                 |                               | 300.5-299                   |
|                         | 19,400        | 1.5          | 29,100       | 27,645                         | 2.5  | 69,113                 |                               | 305-303.5                   |
| 2 <sup>nd</sup>         | 23,600        | 1.5          | 35,400       | 33,630                         | 2.5  | 84,075                 | 3,20,626                      | 303.5-302                   |
| Year                    | 27,000        | 1.5          | 40,500       | 38,475                         | 2.5  | 96,188                 |                               | 302-300.5                   |
|                         | 20,000        | 1.5          | 30,000       | 28,500                         | 2.5  | 71,250                 |                               | 300.5-299                   |
|                         | 9,600         | 1.5          | 14,400       | 13,680                         | 2.5  | 34,200                 |                               | 300.5-299                   |
|                         | 33,900        | 1.5          | 50,850       | 48,308                         | 2.5  | 1,20,770               | -                             | 299-297.5                   |
| 3 <sup>rd</sup><br>Year | 32,500        | 1.5          | 48,750       | 46,313                         | 2.5  | 1,15,783               | 4,23,586                      | 305-303.5                   |
| rear                    | 31,700        | 1.5          | 47,550       | 45,173                         | 2.5  | 1,12,933               |                               | 296-294.5                   |
|                         | 11,200        | 1.5          | 16,800       | 15,960                         | 2.5  | 39,900                 |                               | 294.5-293                   |
|                         | 18,400        | 1.5          | 27,600       | 26,220                         | 2.5  | 65,550                 |                               | 294.5-293                   |
|                         | 28,600        | 1.5          | 42,900       | 40,755                         | 2.5  | 1,01,888               |                               | 293-291.5                   |
| 4 <sup>th</sup>         | 27,300        | 1.5          | 40,950       | 38,903                         | 2.5  | 97258                  | 4,99,346                      | 291.5-290                   |
| Year                    | 26,000        | 1.5          | 39,000       | 37,050                         | 2.5  | 92625                  | 4,33,340                      | 290-288.5                   |
|                         | 24,800        | 1.5          | 37,200       | 35,340                         | 2.5  | 88350                  |                               | 288.5-287                   |
|                         | 22,600        | 1            | 22,600       | 21,470                         | 2.5  | 53675                  | 4 80 0 00                     | 287-286                     |
| Total                   | -             | -            | 5,98,000     | 5,68,102                       | 2.5  | 1420258                | 14,20,258                     |                             |

#### Summary of Land use at different stage will be as follows (in ha):

| Particulars       | Area in ha | Total Area Utilized |
|-------------------|------------|---------------------|
| Proposed pit area | 4.036 ha   | 4.78 ha             |
| expect mine       |            |                     |
| boundary          |            |                     |
| Plantation        | 0.740      | 0.740               |
| Area for road     | 0.004      | 0.004               |

| Total | 4.780 ha | 4.780 bo |
|-------|----------|----------|
| Total | 4.780 ha | 4./80 ha |

Systematic working will be done by formation of benches as per M.M.R. 1961. All applicable rules of MMR 1961, Mines Act-1952, MCR-2016 and MCDR-1988 will be followed for safe, scientific & systematic working to follow the principles of safety & conservation of human health & mineral.

#### **Disposal of Waste**

Nature of waste, its rate of yearly generation and proposals for disposal of waste: The mine waste is in the form of following:-

- (1) Top soil: There are total approx 6660 m³ soil/ 40360 m³ OB generated from the pit area during in plan period. This waste will be dumped on 7400 m² safety zone area. There will not be any sub grade mineral generated during mining only temporary stock of limestone will be dumped in the suitable place of the mine side. Hence it's staking site and design of stack has not been considered. The mineral rejects like shale and clay will be spread over peripheral dump.
- **(2) OB and Mine waste: -** The waste generated as topsoil will be used for plantation purpose at safety zone.

#### **Selection of Dumping Site:**

Total 6660 cum soil will be generated from the area which will be dumped on 40360 m<sup>2</sup> area adjacent land. OB/Waste material will be generated OB will be temporary stacked along the lease boundary for future used

**Method and manner of disposal of waste:** Top soil excavated from the height of Max 1 m and will be dumped at safety barriers around the lease area & adjacent land then will be used for plantation purpose at safety zone.

#### **Use of Mineral**

Limestone is useful in many industries. Its uses in different industries depend upon its chemical constituent. It is used in iron and steel industries, refractory industries, Ferro alloys, chemical and glass industries, fertilizers, plant and rubber industries. In Chhattisgarh Limestone is mostly used in iron and steel industries. Most of the Limestone is used in Steel plant. To meet the demand of existing Limestone steel industries and industries which are yet to come in future?

#### **General Features**

#### I) Surface Drainage Pattern

In the Study area of 10 km radius, Kharun River (Distance at 18 km).

#### ii). Vehicular Traffic Density

The QL area can be approached from State Highway 22 which is at a distance of 1.50 km. The Nearest Railway Station is Durg Railway Station about 19.86 km. Swami Vivekananda Airport 31.55 km in NE direction.

The mode of transport of mineral and waste will be dumpers or trucks within the QL area. The mineral transportation to the destination industry outside the mining lease area will be by road.

#### iii) Water demand

No processing of mineral will be done in the mine. Only simple sizing and sorting will be done.

#### **Manpower Requirement**

About 61 persons will be getting direct and indirect employment in this mine. The man power will be mostly skilled.

#### **DESCRIPTION OF BASELINE-ENVIRONMENT**

This section contains the description of baseline studies of the 10 km radius of the area. The data collected has been used to understand the existing environment scenario around the proposed mining project against which the potential impacts of the project can be assessed.

Environmental data has been collected in relation to propose mining for:-

- (a) Land
- (b) Water
- (c) Air
- (d) Noise
- (e) Biological
- (f) Socio-economic
- **(a)** Land Use: The land-use is divided into agriculture land, settlement, and river and forest area as shown in the map. The area is fertile and dominated by the proportion of agriculture land.

#### Land Use Pattern of the Study Area (within 10 km Buffer)

| Land use Type     | Area (Ha) |
|-------------------|-----------|
| Open Land         | 465.24    |
| Stony Quarry      | 335.41    |
| Settlement        | 490.36    |
| Water Bodies      | 268.66    |
| Agricultural Land | 30,120.61 |
| TOTAL             | 31,680.28 |

There is no National Park, Biosphere reserve, Migratory routes of fauna and National Monument within 10km periphery of the lease area as per secondary data available. There is no habitation within lease area.

#### **Analysis Results of Baseline Environment**

#### (a) Results of Analysis of the Soil.

Samples collected from identified locations indicate the soil is sandy type and the pH value ranging from 7.12 to 7.74, which shows that the soil is alkaline in nature. Potassium is found to be from 73.40 mg/kg to 86.32 mg/kg. The water holding capacity is found in between 23.64% to 26.24%.

#### (b) WATER ENVIRONMENT

- The pH limit fixed for drinking water samples as per IS-10500 Standards is 6.5 to 8.5 beyond this range the water will affect the mucus membrane or water supply system. During the study period, the pH was varying for ground waters from 7.11 to 7.19. The pH values for all the samples collected in the study area during study period were found to be within the limits.
- The desirable limit for total dissolved solids as per IS-10500 Standards is  $500\,\text{mg/l}$  whereas the permissible limit in absence of alternate source is  $2000\,\text{mg/l}$ . In ground water samples collected from the study area, the total dissolved solids are varying from  $411\,\text{mg/l}$  to  $470\,\text{mg/l}$ . The TDS of the samples were within the desirable limit & the permissible limit of  $500\,\text{mg/l}$  &  $2000\,\text{mg/l}$  respectively.

#### (c) AMBIENT AIR QUALITY

The Ambient Air Quality Monitoring reveals that of monitoring stations with minimum Concentrations of PM10 were 43.61  $\mu$ g/m3 at AQ4 and maximum 66.45  $\mu$ g/m3 at AQ8. The result of PM2.5 reveals that the minimum concentration of 25.18  $\mu$ g/m3 at AQ4 while maximum concentration of 43.18  $\mu$ g/m3 was found at AQ8.

The gaseous pollutants SO2 and NOx were within the prescribed CPCB limit of 80  $\mu$ g/m3. For residential and rural areas at all stations. The minimum & maximum concentrations of SO2 were found to be 9.13  $\mu$ g/m3 at AQ4 & 14.48  $\mu$ g/m3 at AQ8 respectively. The minimum & maximum concentrations of NOx were found to be 10.53  $\mu$ g/m3 at AQ4 & 18.13  $\mu$ g/m3 at AQ8 respectively.

The free silica content in PM10 was found to be minimum 1.02  $\mu g/m3$  and maximum 2.15  $\mu g/m3$  at AQ4 and AQ8 respectively.

#### (d) NOISE ENVIRONMENT

Noise monitoring reveals that the minimum & maximum noise levels at day time were recorded as  $45.11\ dB$  (A) at NQ-4 &  $60.21\ dB$  (A) at NQ1 respectively. The minimum & maximum noise levels at night time were found to be  $31.04\ dB$  (A) at NQ4 &  $49.11\ dB$  (A) at NQ1 respectively.

There are several sources in the 10 km radius of study area, which contributes to the local noise level of the area. On the commencement of the project, the sound from traffic activities will add to the ambient noise level of the area. This will be kept under check by taking proper suggestive measures.

#### (e) BIOLOGICAL ENVIRONMENT

The lease area as well as buffer zone area reveals no endangered and endemic species of flora and fauna in the area.

#### (f) Socio- economic

**Study Area:** The study area, also known as impact area has been defined as the sum total of core area and buffer area with a radius of 10 km from the periphery of the project site. The study area includes all the land marks both natural and manmade, falling therein.

**QoL:** The Quality of Life (QoL) refers to degree to which a person enjoys the important possibilities of his/her life. The 'Possibilities' result from the opportunities and limitations, each person has in his/her life and reflect the interaction of personal and environmental factors. Enjoyment has two components: the experience of satisfaction and the possession or achievement of some characteristic.

**Household**: A group of persons who normally live together and take their meals from a common kitchen are called a household. Persons living in a household may be related or unrelated or a mix of both. However, if a group of related or unrelated persons live in a house but do not take their meals from the common kitchen, then they are not part of a common household. Each such person is treated as a separate household. There may be one member households, two member households or multi-member households.

**Sex Ratio:** Sex ratio is the ratio of females to males in a given population. It is expressed as 'number of females per 1000 males.

**Literates:** All persons aged 7 years and above who can both read and write with understanding in any language are considered as literate. It is not necessary for a person to have received any formal education or passed any minimum educational standard for being treated as literate. People who are blind but can read in Braille are also treated as literates.

**Literacy Rate:** Literacy rate of population is defined as the percentage of literates to the total population aged 7 years and above.

**Labour Force:** The labour force refers to number of people employed and unemployed in a geographical entity. The size of the labour force is the sum total of persons employed and unemployed. An unemployed person is defined as a person not employed but actively seeking work. Normally, the labour force of a country consists of everyone of working age (commencing from 16 years) and below retirement (65 years) that are participating workers, that is people actively employed or seeking employment. People not counted under labour force are students, retired persons, stay-at home people, people in prisons, permanently disabled persons and discouraged workers.

**Work:** Work is defined as participation in any economically productive activity with or without compensation, wages or profit. Such participation may be physical and/or mental in nature. Work involves not only actual work but also includes effective supervision and direction of work. The work may be part time or full time or unpaid work in a farm, family enterprise or in any other economic activity.

**Worker:** All persons engaged in 'work' are defined as workers. Persons who are engaged in cultivation of land or milk production even solely for domestic consumption are also treated as workers.

**Main Workers:** Those workers who had worked for the major part of the reference period (i.e. 6 months or more in the case of a year) are termed as Main Workers.

**Marginal Workers:** Those workers who did not work for the major part of the reference period (i.e. less than 6 months) are termed as Marginal Workers.

**Work Participation Rate:** The work participation rate is the ratio between the labour force and the overall size of their cohort (national population of the same age range). In the present study the work participation rate is defined as the percentage of total workers (main and marginal) to total population.

**Birth Rate:** The ratio of total live births to total population in a specified community or area over a specified period of time. The birth rate is often expressed as the number of live births per 1,000 of the population per year.

**Death Rate:** The ratio of total deaths to total population in a specified community or area over a specified period of time. The death rate is often expressed as the number of deaths per 1,000 of the population per year. It is also called fatality rate or mortality rate.

**Maternal Mortality Rate:** The maternal mortality rate refers to number of maternal deaths per 1,000 women of reproductive age in the population (generally defined as 15-44 years of age).

**Infant Mortality Rate:** The infant mortality rate refers to number of deaths of children less than 1-year-old per 1000 live births.

#### 8.0 Baseline Data

Baseline data refers to basic information collected before a project/scheme is implemented. It is used later to provide a comparison for assessing impact of the project. Any attempt to collect base line data while undertaking actual impact assessment study is faced with recall error. The baseline data was collected from secondary sources. It consists of demographic particulars and amenities. The data presented in the table below pertains to study area as a whole.

# ANTICIPATED ENVIRONMENTAL IMPACTS & MITIGATION MEASURES Impact on Ambient Air Quality

The mining is proposed to be carried out by opencast semi mechanized method. The air borne particulate matter generated by ore and handling operations as well as transportation is the main air pollutant. The emissions of Sulphur dioxide  $(SO_2)$ , Oxides of Nitrogen  $(NO_x)$  contributed by vehicles plying on haul roads are marginal. Prediction of impacts on air environment has been carried out taking into consideration proposed production and net increase in emissions.

#### **Mitigation Measures**

- 1. Water sprinkling will be done on the haul roads twice in a day.
- 2. The dust generated during the process will be minimized by water spray at the working faces before and after the activity.
- 3. Plantation will be carried out on approach roads and in Lease boundary.
- 4. Planning transportation routes of mined material so as to reach the nearest paved roads by shortest route. (minimize transportation over unpaved road);
- 5. Personal Protection Equipments (PPE) like dust masks, ear plugs etc. will be provided to mine workers.
- 6. Rock breaker will be used for breaking over size boulders in order to reduce dust and noise generation, which otherwise would be generated due to secondary blasting.
- 7. Speed limit will be enforced to reduce airborne fugitive dust from vehicular traffic.
- 8. Deploying PUC certified vehicles to reduce their noise emission.

- 9. Haul road shall be covered with gravels
- 10. Spillage from the trucks will be prevented by covering tarpaulin over the trucks.
- 11. Ambient Air Quality Monitoring will be conducted on regularly basis to assess the quality of ambient air.
- 12. Proper maintenance of machines improves combustion process & makes reduction in the pollution.
- 13. Good maintenance and monitoring of fuel and oil will not allow significant addition in the gaseous emission.

#### NOISE ENVIRONMENT

Noise generated at the mine is due to semi mechanized mining operations and truck transportation activities. The noise generated by the mining activity dissipates within the mine. There is no major impact of the mining activity on the nearby villages. However, pronounced effect of above noise levels is felt only near the active working area.

The impact of noise on the villages is negligible as the villages are far located from the mine workings. Since there is no involvement of major machinery, the impact of noise levels will be minimal.

| S. No. | Imj     | pact Pred  | iction |  | Mitigation Measures                              |
|--------|---------|------------|--------|--|--|
| 1      | Noise   | Impact     | due    | to   | The noise levels from all the sources are        |
|        | mining  | activities |        |  | periodical and restricted to particular          |
|        |         |            |        |  | operation.                                       |
| 2      | Noise   | impact     | due    | to   | a) Proper maintenance, oiling and greasing of    |
|        | vehicul | lar moven  | ient.  |  | machines at regular intervals will be done to    |
|        |         |            |        |  | reduce the generation of noise.                  |
|        |         |            |        |  | b) Plantation along the sides of approach roads, |
|        |         |            |        |  | around office building and mine area will be     |
|        |         |            |        | done to minimize the propagation of noise.   |  |
|        |         |            |        | c) Personal Protective Equipments (PPE) like |  |
|        |         |            |        |  | earmuffs/earplugs will be provided to all        |
|        |         |            |        |  | operators and employees working near             |
|        |         |            |        |  | mining machineries or at higher noise zone.      |
|        |         |            |        |  | d) Periodical noise level monitoring will be     |
|        |         |            |        |  | done   |

#### **BIOLOGICAL ENVIRONMENT**

| S. No. | Impact Predicted  | Suggestive measure   |
|--------|---|--|
| 1      | Disturbance of free<br>movement/living<br>of wild fauna | <ul> <li>Care will be taken that noise produced during vehicles movement for carrying OB and ore materials are within the permissible noise level.</li> <li>Care will be taken that no hunting of animals (birds) carried out by labours.</li> <li>Labours will not be allowed to discards food, plastic etc., which can attract animals near the core site.</li> <li>Only low polluting vehicle will be allowed for carrying ore materials. All vehicles allowed in the project site area will</li> </ul> |

|   |                     | <ul> <li>have to provide pollution under control certificate at the end of three months</li> <li>Noise level will be within permissible limit (silent zone-50dB during day time) as per noise pollution (regulation and control), rules, 2000, CPCB norms</li> </ul> |
|---|---------------------|--|
| 2 | Harvesting of flora | <ul> <li>No tree cutting, chopping, lumbering, uprooting of shrubs and herbs should be allowed</li> <li>Collections of economically important plants will be fully restricted</li> </ul>   |

#### LAND ENVIRONMENT

| S.           | Impact Prediction  | Mitigation Measures   |
|--------------|--|---|
| <b>No.</b> 1 | Change in the<br>Topography of the<br>Land / Land<br>Degradation                   | The proposed mining activity is carried out in hilly region and waste land After removal of ore body, a undulating portion will be created. All the broken area will be reclaimed by systematic backfilling and rehabilitated by afforestation so that landscape of the area is improved.   |
| 2            | Solid waste generation   | About 10% mineral wastes will be generated. Top Soil will used on the barrier zone areas on which plantation will be raised.  |
| 3            | Change in Drainage<br>Pattern  | Water flow / course will not be obstructed and natural drains or nallahs will not be disturbed. Runoff from mine and mineral stack will be prevented to avoid being discharged to surroundings, particularly to agricultural land. Garland drains and, catch pits has been constructed to prevent run off affecting the surrounding agricultural land. Green belt has been developed in boundary. |
| 4            | Impact on the<br>Agricultural Practice at<br>nearby area due to<br>dust generation | Agriculture activities are practicednearby areas may impacted because of dust generation but mitigative measures such as regular water sprinkling on active areas for example haul roads, excavation sites will be strictly followed so that impact is minimized.   |

## WATER ENVIRONMENT

| S.<br>No. | Impact Prediction    | Mitigation Measures                                  |
|-----------|----------------------|--|
| 1         | Effect on the Ground | Max Elevation of the ML area is 267m AMSL Ultimate   |
|           | Water Table          | depth of mine is up to 266m AMSL. Ground Water table |
|           |                      | is 25m to 30m AMSL. The mining activity will not     |
|           |                      | intersect with the ground water table.               |

| 2 | Wash off from the   | No dumping has been proposed.                           |
|---|---------------------|---|
|   | dumps               |   |
| 3 | Soil Erosion        | Reclamation of the minedout area will be done with      |
|   |                     | plantation to avoid the soil erosion                    |
| 4 | Waste Water         | Portable Bio-toilets will be used; hence no sewage /    |
|   | generation/         | liquid effluent will be generated and contamination is  |
|   | Discharge           | also not expected due to percolation.                   |
| 5 | Siltation in nearby | Garland drains have been constructed on the sloping     |
|   | agriculture field   | side barrier of the ML area. The garland drain has been |
|   |                     | routed through settling tank to remove suspended        |
|   |                     | solids from flowing into storm water.                   |

#### **ADDITIONAL STUDIES**

#### **DISASTER MANAGEMENT PLAN**

In order to avoid any danger in the mine site at the end of life of mine a disaster management cell headed by local authority District Collector will be constituted. Police department health authorities, including doctor, ambulances and so on will have a vital part to play following a disaster along with the mine management, and they will be an integral part of the disaster management plan.

The disaster management plan is aimed to ensure safety of human life and property and protection of environment Following are the objective of the disaster management plan.

- (i) First Aid to injure.
- (ii) Rescue operation and provision of adequate medical facilities to the injured.
  - (iii) Safety of the human life in the buffer zone if needed.
  - (iv) Protecting and minimizing damage to property and the environment.
  - (v) Initially restrict and ultimately bring the incident under control.
  - (vi) Identify any dead.
  - (vii) Inform to the administration, DGMS and statutory persons as per Rules.

#### PROJECT BENEFITS AND COSTS EVALUATION

The project will improve the physical infrastructure, social infrastructure like improvement of road conditions water supply during dry season, drainage, educational institutions and improved environmental conditions, etc. The project also provides direct employment to 50 persons and indirect employment to another 40 persons. It increases economic activities, better living standard, educational facility, health facility and infrastructural development. The project will contribute to district mineral fund which will directly provide aid to the local authority to fund the development projects. The management will provide free saplings of fruit bearing and other trees, etc. to local during rain for plantation. This will increase the consciousness in workers and near-by villagers for greenery. Fruittrees can contribute towards their financial gains.

The CSR activities are increasingly being taken up by the project proponent not only as fulfilling of mandatory provisions but also for the formation or enhancement of brand image. Besides the above, CSR is seen more as a responsibility towards society rather than a business promotion activity.

Year wise allocation of funds for the above activities proposed to be taken up by the project proponent is provided in the table below:

#### **Budget for Environmental Protection**

| Sl. | Description               | Capital   | Recurring                 |
|-----|---------------------------|-----------|---------------------------|
| No  |                           | Cost 1st  | Cost (Rs) 2 <sup>nd</sup> |
|     |                           | year (Rs) | year                      |
| 1   | Pollution Control & Dust  | 1,25,000  | 1,50,000                  |
|     | Suppression               |           |                           |
| 2   | Pollution Monitoring      | -         | 50,000                    |
|     | Plantation and salary for | 4,00,000  | 1,00,000                  |
| 3   | one gardener (part time   |           |                           |
|     | basis).                   |           |                           |
| 4   | Haul road Maintenance     | 1,00,000  | 50,000                    |
|     | Cost (50 m)               |           |                           |
| 5   | Occupational health and   | 50000     | 50000                     |
|     | safety cost               | 20000     | 20000                     |
|     | TOTAL (Rs)                | 6,75,000  | 4,00,000                  |

#### **Budget for Occupational Health**

| Particulars            | Capital Cost (Rs.) | Recurring Cost (Rs.) |  |
|------------------------|--------------------|----------------------|--|
| For routine checkup    |                    | 50,000               |  |
| Infrastructure & PPE's | 50,000             | 50,000               |  |

#### Budget for Water, Shelter and Sanitation for Mine Worker

| Scheme                          | Capital Cost (In Rs) | Recurring Cost (In Rs)/year |
|---------------------------------|----------------------|-----------------------------|
| Drinking water facility         | 50,000               | 20,000                      |
| Rest shelter                    | 50,000               | 20,000                      |
| Sanitation (Urinal and Toilet ) | 1,00,000             | 30,000                      |
| Total                           | 2,00,000             | 70,000                      |

#### **CORPORATE ENVIRONMENT RESPONSIBILITY**

Corporate Environment responsibility (CER) refers to responsibility of a company/ organization to ensure positive impact on environment, consumers, employees, communities, stakeholders and all other members of public sphere. The CER activities are

increasingly being taken up by the project proponent not only as fulfilling of mandatory provisions but also for the formation or enhancement of brand image. Besides the above, CER is seen more as a responsibility towards Environment & society rather than a business promotion activity. It is the need of the day for expansion of Environment & occupational welfare. This will not only improve the socio-economic status of the people living in the nearby areas but also enhance the reputation of the project proponent among the local people.

Year wise allocation of funds for the above activities proposed to be taken up by the project proponent is provided in the table below:

| S.   | Activities                               | Fund in lakhs/ year    |
|------|--|------------------------|
| No   |  | (Capital Cost in lakh) |
| 1    | Mitravan will be developed in the        | 2.70                   |
|      | government land of Gondpendri village in |                        |
|      | association with Gram Panchayat.         |                        |
| TOTA | L  | 2,70,000               |

# Mitra van will be developed in village by taking proper permission from gram panchayat

All the activities listed above are for community development as a whole and not for individual person or a family.

#### **CONCLUSION**

The project will throw opportunities to local people for both direct and indirect employment. The proposed mining operation in the state will not only fetch income to the state exchequer but also ensure healthy development of proposed mining in the state of Chhattisgarh. Illegal mining and unorganized mining pose a much bigger health hazard whereas organized mining under QL facilities to undergo periodic health check-ups.

At present agriculture is the main occupation of the people living in the study area. Due to mining project the occupational pattern of the people in the area will change making more people engaged in industrial and business activities there by leading to urbanization. It is expected that education, health, housing, water and electricity etc. facility will improve to due to this mining project and associated industrial and business activities.