



## 1.0 INTRODUCTION

### 1.1 PURPOSE

M/s Radha Madhav Industries Pvt. Ltd proposed relocation and installation of one unit of 100 Ton per day / 30,000 TPA sponge iron from village Nayapara-Bodri PO Chakrabhata Camp, Bilaspur District to village Ramboad, Tehsil Patharia, District Mungeli, Chhattisgarh according to the orders of Chhattisgarh Environment Conservation Board for relocation due to the coming up of State High Court in the vicinity of the existing plant. The company has identified an area of 09.768 ha for the project.

The State Expert Appraisal Committee, Chhattisgarh of MoEF considered the proposed relocation and installation project for prior EC (Form-1) at its 74<sup>th</sup> meeting held on 29/09/2011. Based on the consideration of the documents submitted and the presentation made by the project proponent, the Committee prescribed the Terms of Reference for undertaking detailed EIA study vide letter no.-61/SEAC-CG/EC/SI/BSP/239 dated 30/11/2011 for preparing the EIA/EMP.

### 1.2 IDENTIFICATION OF PROJECT

The Radha Madhav Industry Sponge Iron Plant earlier started commercial production on 30.09.2004 at Nayapara-Bodri, PO- Chakrabhata Camp, Bilaspur after obtaining permission to establish from Chhattisgarh Environment Conservation Board, Raipur vide letter no. 1218/TS/CECB/2004 dated 15/04/2004. The production continued successfully until 2010, when the CECB issued the renewal of Consent vide letter no. 2181/TS/CECB/2010 dated 13/7/2010 along with the condition that as soon as the Honorable High Court of CG is shifted near the sponge iron plant, the plant shall stop manufacturing activity. Hence the plant is to be relocated to 20 km away direction North West at Ramboad, Tehsil Patharia, District Mungeli, Chhattisgarh, please refer Google Map showing old and new location of the plant is shown in **Figure 1.1**.

### 1.3 BRIEF DESCRIPTION OF PROJECT

#### 1.3.1 Nature of the Project

The objective of the project is to manufacture 1x 100 TPD/ 30,000 TPA sponge iron. The manufacturing process of the proposed relocation and installation project falls under "CATEGORY-B1" (being a Primary metallurgical process) by Ministry of Environment & Forests, New Delhi to comply the direction of SEAC, Chhattisgarh MoEF, a detail EIA study has been carried out and as such EIA/EMP report has been prepared based upon TOR issued.

#### 1.3.2 Size of the Project

The proposed relocation and installation project is planned at village Ramboad, Tehsil Patharia, District Mungeli in Chhattisgarh is having production capacity of 100 TPD only sponge iron, annual production cap 30,000 TPA.



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1.3.3 Cost of the Project and Anticipated Life of Project

Total cost of the proposed relocation and installation project is estimated to be Rs.1594.00 Lakhs. The projected life of the project is 20 years.

2.0 PROJECT DESCRIPTION

2.1 LOCATION OF THE PROJECT

The proposed relocation and installation project of M/s Radha Madhav Industries Pvt. Ltd., is at village Ramboad, Tehsil Patharia, District Mungeli, Chhattisgarh. The site coordinates are Latitude: 21°56'43.2''North and Longitude: 81°59'13.5''East. The environmental setting of the site is presented in **Table-2.1**.

**TABLE 2.1**  
**ENVIRONMENTAL SETTING**

S.No	Particulars	Details																					
1	Location																						
	Project Village	Ramboad																					
	Tehsil	Patharia																					
	District	Mungeli																					
	State	Chhattisgarh																					
2	Topo-sheet No.	64 G 13 & 64 K 1																					
3	Coordinates																						
	Plant Boundary	<table border="1"> <thead> <tr> <th>Location</th> <th>Latitude N</th> <th>Longitude East</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>21°51'53.2''</td> <td>81°59'10.6''</td> </tr> <tr> <td>B</td> <td>21°56'42.2''</td> <td>81°59'14.7''</td> </tr> <tr> <td>C</td> <td>21°56'43.2''</td> <td>81°59'13.5''</td> </tr> <tr> <td>D</td> <td>21°56'42.2''</td> <td>81°59'8.9''</td> </tr> <tr> <td>E</td> <td>21°56'33.9''</td> <td>81°59'14.2''</td> </tr> <tr> <td>F</td> <td>21°56'35.7''</td> <td>81°59'4.9''</td> </tr> </tbody> </table>	Location	Latitude N	Longitude East	A	21°51'53.2''	81°59'10.6''	B	21°56'42.2''	81°59'14.7''	C	21°56'43.2''	81°59'13.5''	D	21°56'42.2''	81°59'8.9''	E	21°56'33.9''	81°59'14.2''	F	21°56'35.7''	81°59'4.9''
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4	Topography	Fairly Flat																					
5	Elevation	243 m																					
6	Nearly Railway Station	Belha, 12 Km in North East																					
7	Nearest airport	Raipur (105 kms)																					
8	Nearest Highway	NH 200, 5 Km in East																					
9	Nearest Town	Belha, 12 Km in North East																					



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10	Nearest Villages	Village	Distance km	Direction
		Ramboad	2.7	WNW
		Atarra	3	E
		Khamahardi	3.6	SSE
		Anda	3.5	NW
		Dhamni	5	SW
		Modha	5	ENE
11	Nearest Water Body	Maniyari River, 1 Km in East		
12	Seismic Zone	Zone – II as per IS-1893 (Part-1) 2002		
13	Protected area under the wildlife Act, 1972	None within 15 Km radius		
14	Forest land	No forest land is involved		
16	Notified Eco – sensitive area	None within 15 Km radius		
17	Critically Polluted area as identified by Central Pollution Control	None within 15 Km radius		
18	Defense Installations	None within 15 Km radius		
19	Historical Places	None within 15 Km radius		
20	Mangroves	None within 15 Km radius		
21	Estuary/ Sea	None within 15 Km radius		

**2.2 MAGNITUDE OF OPERATION**

M/s Radha Madhav Industries Pvt. Ltd proposed relocation and installation of 1x100 Ton per day / 30,000 TPA sponge iron industry. The details of the proposed relocation and installation project are presented in **Table-2.2**.

**TABLE-2.2**  
**DETAILS OF THE PROPOSED RELOCATION AND INSTALLATION PROJECT**

Sr. No.	Parameter	Description
1	Land Requirement	09.768 ha
2	Landuse	Industrial land
3	Water Requirement	70 KLD (21000 kl/year)
4	Source of Water	Will be supplied by ground water
5	Power Requirement	Power requirement 700 KVA
6	Source of Power	Will be supplied by CSEB
7	Employment	100 Nos.
8	Project Cost	Rs.1594.00 lakhs



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**2.3 PROPOSED SCHEDULE FOR APPROVAL AND IMPLEMENTATION**

The Project would take about 4 -6 months from the zero date. Since the project has experienced persons the planning and implementation of the project is not a much difficult job.

**2.4 BASIC REQUIREMENTS FOR PROPOSE RELOCATION AND INSTALLATION PROJECT**

*2.4.1 Land requirement:*

The total land requirement for the project will be 09.768 ha.

*2.4.2 Raw materials Requirement*

The quality of raw materials is key factor for effective plant operation. The raw materials required for the sponge iron manufacture process are given in **Table-2.3**.

**TABLE-2.3  
LIST OF RAW MATERIAL REQUIRED, FUEL.**

S. No.	Particulars	Requirement Per Day (In MT)	Requirement Annually (In MT)
1	Iron Ore (Fe Content : 65 % Minimum)	160 TPD (1.60 MT * 100 TPD)	48000 TPA (160 TPD * 300 days)
2	Coal (Fixed Carbon : 45 % Minimum)	140 TPD (1.40 MT * 100 TPD)	42000 TPA (140 TPD * 300 days)
3	Lime Stone (CaO Content : 45 % Minimum)	30 TPD (.30 MT * 100 TPD)	9000 TPA (30 TPD * 300 days)
6	Fuel (Diesel)	0.40 Kl for each start up	Two days during the startup for five times in a year

**2.5 PRODUCTION DETAILS**

The production quantity will be limited to 100 TPD only of the proposed relocation and installation sponge iron industry is listed as below.

- The raw materials i.e. iron ore, coal & lime stone, water, power, fuel in the required calibrated sizes are fed in to rotary kiln, which is inclined and rotated at a required range of speeds.
- Due to inclination and the rotary motion of the kiln, the raw materials move from the feed end to the discharge end; in the process it gets pre heated and reduced to sponge iron.
- In Sponge Iron Production, reduction of iron ore with coal is carried out in a rotary kiln at a prefix temperature and controlled reducing atmosphere.
- The material discharge from the kiln is taken into a rotary cooler, where the material is cooled and then taken to the product separation and handling



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system, the product is screened to different size fractions and then magnetically separated by means of magnetic separator.

- The Sponge Iron is taken to a storage bin for dispatch and the Char, which is not magnetic and contain a certain amount of carbon, is taken into a separate bin and can be recycled if suitable or alternatively sold as fuel for application such as Fuel for brick making and power generation and so on.

**2.6 MANUFACTURING PROCESS OF SPONGE IRON**

The major raw materials required for the production of sponge iron by rotary kiln process are high-grade iron ore and coal. A small quantity of Lime Stone is also required to be used as flux.

Dehydrated iron oxides (Fe<sub>2</sub>O<sub>3</sub> or Fe<sub>3</sub>O<sub>4</sub>) in the presence of an excess of reducing agent, form dark gray porous mass, having the same size and shape as the original lumps or pellets, when reduced at temperature below 900 °C. A temperature of 950 °C to 1000 °C is necessary to complete reduction in a reasonable length of time. At 1000 °C, the mass absorbs carbon rapidly, if the latter is present, and begins to fuse, though the upper melting (entirely liquid) point to pure iron is 1530 °C. The size of the ore of 6 to 25 mm and 1000°C temperature or the optimum conditions for the conversion of iron ore to sponge iron.

**3.0 BASELINE ENVIRONMENTAL STATUS**

The baseline environmental quality data collected as per CPCB norms for various components of environment, viz. Air, Noise, Water and Soil were generated during 1<sup>st</sup> December 2011-29<sup>th</sup> February 2012 representing Winter season in the study area covering radial distance of 10 km around the propose relocation and installation sponge iron industry site.

**3.1 LAND USE STUDIES**

The Land use pattern of the study area details given in **Table 3.1**. The following prominent land use classes have been observed in the study area.

**TABLE 3.1**  
**LAND USE PATTERN IN THE 10 KM STUDY AREA**

Landuse	Area (ha)	Percentage (%)
Forest Land	32	less than 1%
Irrigated Land	1073	4%
Un Irrigated Land	21196	71%
Culturable waste	5212	17%
Area Not available for cultivation	2340	8%
<b>Total</b>	<b>29826</b>	<b>100.00</b>



### 3.2 SOIL ENVIRONMENT

The soil samples were collected from 8 locations in core/Buffer Zone covering various land uses and compared with the standard soil classification. The observation indicates that the soils are moderately fertile and support the vegetation life in the region.

### 3.3 TERRESTRIAL ECOLOGY

Studies on flora and fauna of the area had been carried out both for the core zone and buffer zone. Details of the studies were carried out for assessing the diversity pattern of the floral species. Faunistic pattern of the area was studied based on inquiries from the local population, personal observation and forest officials.

### 3.4 METEOROLOGY

The meteorological data recorded during the monitoring period is very useful for proper interpretation of the baseline information as well as input for air quality prediction models. Historical data on meteorological parameters will also play an important role in identifying the general meteorological regime of the region

#### Ambient Air Quality

To establish the baseline status of the ambient air quality in the study area, the air quality was monitored at 8 locations. The PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>x</sub> and SPM levels are found to be well within the CPCB standards.

### 3.5 NOISE ENVIRONMENT

A preliminary reconnaissance survey has been undertaken to identify the major noise generating sources in the area. Ten locations were identified based on the activities in the village area, traffic and sensitive areas like hospitals and schools. All the observations were found to be within the CPCB limits.

### 3.6 WATER QUALITY

The water quality in 10 Km radius has been assessed at 8 location surface water and 8 ground water locations. The water quality was found to be uncontaminated and free from industrial pollution.

### 3.7 SOCIO-ECONOMIC ENVIRONMENT

#### 3.7.1 Demography and Socio-Economics

Study area encompasses villages from Mungeli, Takhatpur and Bilha tehsils of Bilaspur districts. The significant observations are as follows:

- The total population of the villages surveyed is 67035.
- The ratio of Female/Male is 991/1000 for the villages surveyed as compared to the national average of 933/1000 which high.
- Literacy level among the respondent is satisfactory as the educational facilities are adequate in the villages surveyed. The literacy rate is 45.34%.



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- The percentage of scheduled caste (SC) and scheduled tribe (ST) population is 18.63% and 16.53% respectively in the study area.
- The employment rate is 34.79% & marginal workers are 10.11%.
- Village people are availing Drinking water facilities generally from the Hand pump, open well and sometimes from water ponds. The water supply is also supplied through tanker in few villages. During summer scarcity of water has been noted in the study area.
- Communication services like post office, telephones are not available in all villages but some villagers are having mobile phones.
- 100% villages in the study area are electrified. Electricity is available for domestic

## 4.0 ANTICIPATED ENVIRONMENT IMPACT ASSESSMENT & MITIGATION MEASURES

### 4.1 ENVIRONMENTAL IMPACTS DUE TO REGULAR OPERATIONS

The ambient air quality will be affected, due to fugitive emissions from stacks of the propose relocation and installation plant. The emissions will be significant in the absence of any controlling device. The following activities related to the operational phase will have varying impacts on the environment and are considered for impact assessment:

- Topography and climate;
- Land use;
- Soil quality;
- Air quality;
- Water resources and quality;
- Solid waste;
- Noise levels;
- Terrestrial ecology;
- Aquatic ecology;
- Demography and socioeconomics; and
- Infrastructural facilities.
- Impact on Topography and Drainage

#### 4.1.1 Impact on Land Use

The proposed relocation and installation project site belongs to Chhattisgarh (CSIDC) industrial land, village Ramboad, Tehsil Patharia, District Mungeli, Chhattisgarh. Where Radha Madhav Industries Pvt. Ltd is setting up a Sponge Iron . The total land requirement for the Sponge Iron plant facilities will be 09.768 ha.

The greenbelt will be developed in an area of 3.27 ha covering 33.5% of the project site.



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### 4.1.2 Impact on Soil

Most of the impacts of proposed relocation and installation project on soils are restricted to the construction phase, which will get stabilized during operational phase. The impact on the topsoil will be confined to the propose relocation and installation main plant area.

The probable sources of degradation of soil quality from Sponge Iron facilities are:

1. Disposal of wastewater generated from the Sponge Iron plant facilities; and
2. Deposition of fugitive dust or stack emissions emanating from the plant.

In the propose relocation and installation project activity, wastewater will not be discharged outside the premises. There will be zero discharge from the project site.

### 4.1.3 Impact on Air Quality

The emissions from the plant will be;

- Suspended Particulate matter from stacks;
- Sulphur dioxide in flue gases;
- Fugitive emissions;
- Dust from raw material & fume handling; and
- Dust from vehicle movement.

Proper control measures are being installed by project authorities to minimize the stack emissions within the stipulated permissible limits prescribed within 50 mg/Nm<sup>3</sup>.

### 4.1.4 Fugitive Emissions

The air borne fugitive dust from the plant is likely to be deposited on the topsoil in the immediate vicinity of the plant boundary. However, the fugitive emissions are likely to be controlled to a great extent through propose relocation and installation control measures like bag filters.

### 4.1.5 Impact of off-Site Traffic on Air Quality

The offsite traffic will be resulting due to movement of trucks in and out of the plant carrying raw materials and products. It is estimated that about 65 trucks per day will move in and out of plant area. Hence, only these trucks are considered for modeling. The air quality predictions have been carried out by using the air quality model CALINE-4 developed by California Department of Transportation.

## 4.2 IMPACT ON WATER RESOURCES

The total water required for the proposed relocation and installation plant will be 70 KLD which will be sourced from bore wells with permission for the same to CSIDC for sufficient water supply.

### 4.2.1 Impact on Water Quality

- Waste water from Cooling Towers will be treated and reused within plant



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- There are no perennial streams or streamlets within the plant area.
- Sanitary wastewater will be treated in STP
- Periodic monitoring of water for its quality
- Prevention and control of water pollution aims at conserving the make-up water recycling around 90 per cent of the wastewater. The balance will be directly consumed by the process operation, sanitary and drinking use.
- **Mitigation/Management Measures**
  - The wastewater will be treated and reused for greenbelt development; and
  - The plant shall be operated on the zero discharge.

### 4.2.2 Rainwater Harvesting Measures

- **Need for Artificial Recharge of Ground Water**

Total water requirement of 70 m<sup>3</sup>/day would be obtained from ground water for sufficient water supply. As it is national obligation roof top rain water harvesting will be taken up. .

## 4.3 IMPACT OF SOLID WASTES

Char, flue dust, GCP sludge and kiln accretions are the solid wastes generated from DRI plants. Char comprises unburnt carbon, oxides and gangue and is segregated from the product during magnetic separation. The materials deposited on the inner surface of kiln, comprising metallic oxides is called accretion. Flue dust is generated from air pollution control systems like DSC, ESP and Bag Filter.

## 4.4 IMPACT OF NOISE

### Noise Generation and Control

Sponge Iron plants do not generate noise. For Coal based plants, the moving parts of kilns, cooler and associated equipment like gear boxes, fans etc that generates upto 90 dB(A) noise. Other noise sources in sponge iron plants are vehicular movement, air blowers, vibrating screens / separators. Administrative control is the only method applicable; hence, the workers while going to the noisy areas are advised to wear earplugs and earmuffs.

### 4.4.1 Noise Pollution Management

As per model results the incremental noise levels due to the propose relocation and installation plant will be in the range of 30 dB (A) to 32 dB (A) near the plant boundaries in all the directions.

The criterion for environmental noise control is that the design of the propose relocation and installation plant will not exceed, in any continuous mode of operation, the level stipulated by MoEF and/or Pollution Control Board at any point on the site boundary.



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### 4.4.2 Noise Attenuation Measures

- By providing padding at various locations to avoid rattling due to vibration
- By adopting new technologies for control of noise in various units
- Encasement of noise generating equipment where otherwise noise cannot be controlled
- Providing noise proof cabins to operators where remote control for operating noise generating equipment is feasible.
- All the design/installation precautions as specified by the manufacturers with respect to noise control shall be strictly adhered to;
- Design and layout of building to minimize transmission of noise, segregation of particular items of plant and to avoid reverberant areas;
- Other than the regular maintenance of the various equipment, ear plugs/muffs are recommended for the personnel working close to the noise generating units;
- All the openings like covers, partitions shall be designed properly

## 4.5 BIOLOGICAL ENVIRONMENT

### Impacts on Terrestrial Ecology - Operational Phase

The impact on terrestrial ecology may be felt due to emission of gaseous pollutants like PM. These pollutants at a very low dose act as atmospheric fertilizer for the vegetation.

#### 4.5.1 Impact on Aquatic Ecology

Zero wastewater discharge is envisaged from the Sponge Iron plant operations. The domestic sewage is treated and reused. Hence, no impact is envisaged from the Sponge Iron plant operations on aquatic bodies.

Since the unit will be operating on zero discharge process and no perennial nallahs or stream present in the study area, no impact on aquatic ecology is envisaged.

#### 4.5.2 Mitigation Measures

No impact is envisaged on biological environment of the area. However, extensive plantation / green cover will be developed in and around Sponge Iron plant area as described in plantation development section below.

## 4.6 PLANTATION/GREENBELT DEVELOPMENT

Total plantation in the plant will spread over an area of 3.27 ha, which is about 33.5% of the total plot area of 9.768 ha. The plantation will be developed and maintained around the plant site.



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### 5.0 ANALYSIS OF ALTERNATIVES

#### 5.1 SITE SELECTION

The proposed project is relocation and installation of existing project due to construction of High court newly in vicinity. Alternative land allotted by CSIDC at Ramboad village, Tehsil Patharia, Mungeli District Chhattisgarh.

### 6.0 ENVIRONMENTAL MONITORING PROGRAMME

The attributes, which require regular monitoring, are specified underneath:

- Air quality;
- Water and wastewater quality;
- Noise levels;
- Soil quality;
- Greenbelt; and
- Socio Economic aspects and community development;

Incorporation of the mitigative measures is a one time work. It is the prime responsibility of the plant management to ascertain that all the mitigative measures are working efficiently and to ensure that all guidelines applicable for the plant are being effectively met.

In order to achieve the above goal, various measures are to be incorporated

#### 6.1 POST MONITORING OF ENVIRONMENT MANAGEMENT SYSTEM

- Examination of all air pollution control system with due respect to its performance regularly. A record shall be maintained and will be shown to regulatory authority as and when required.
- Examination and regular cleaning of raw material and fuel handling area.
- Examination of rainwater harvesting systems and storm water drains.
- Regular measurement of ground water level and quality.
- Checking the quality of ambient air by drawing regular air samples and getting them analyzed.
- Maintenance of the record of plantation to monitor plantation scheme, the area of plantation, the observance of growth rate and survival of plants. Observance of growth of fauna in the area.

#### 6.2 LEGAL REQUIREMENTS

Any additional monitoring parameters specified by MOEF/ CPCB/ SPCB (Conditions in consent to Establish, Operate, Renewal, Environmental Clearance).

### 7.0 ADDITIONAL STUDIES

The additional studies/activities have been carried out on different aspects:



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### 7.1 RISK ASSESSMENT AND MITIGATION

Risks and hazards from the project have been identified and appropriate DMP in place.

### 8.0 PROJECT BENEFITS

The propose relocation and installation sponge iron plant will result in improvement of infrastructure as well as upliftment of social structure in the area. The people residing in the nearby areas will be benefited directly and indirectly as well. It is anticipated that the propose relocation and installation plant will provide benefits to the locals in two phases i.e. during construction phase as well as during operational phase of the plant.

#### 8.1 IMPROVEMENTS IN THE PHYSICAL INFRASTRUCTURE

Management of Radha Madhav Industries Pvt. Ltd. is aware of and concerned about the health and safety of not only its own employees and their families but also about the ecology and issues affecting society around their plants. As a corporate citizen it has always been the endeavor of group to take effective steps to tackle all these issues. Following improvements in the physical infrastructure are envisaged:

- Condition of roads: As the transportation of all the raw materials and finished product will be through road, the unit will have liaison with the concerned Government department for maintenance/up gradation of the road.
- Condition of education facilities: The unit will contribute to the construction/maintenance of school buildings in the nearby villages.
- Condition of housing facilities: As the persons engaged from outside will reside in the leased/rented houses in the nearby villages, the housing facilities will improve.
- Condition of medical and health care: The Company will have MOU with nearby hospitals/nursing homes for day to day and annual checkup and treatment of employees, their family and other affected persons.
- Conditions of other infrastructural facilities: Infrastructure facilities like transport, drinking water, health and hygiene are also likely to improve due to the propose relocation and installation project.

#### 8.2 IMPROVEMENTS IN THE SOCIAL INFRASTRUCTURE

To implement this, the promoters propose to launch several projects / schemes.

- Education - Free education and mid-day meal for the students of deprived sections. Support scholarship scheme, Book donation, etc. are other facilities.
- Social security measures;
- Promoting Sports & Cultural activities;
- Concern for society and Environment Protection;
- Community development & cultural events in villages;
- Health camps in surrounding areas



## **9.0 EMP IMPLEMENTATION PROGRAM**

### **9.1 DESCRIPTION ON ADMINISTRATIVE ASPECTS**

Description of the administrative aspects of ensuring that mitigative measures are implemented and their effectiveness monitored, after approval of the EIA. To implement the EMP, a structured environment management cell (EMC) interwoven with the department of Safety, Health and Environment (SHE) is necessary in the plant. However, this being a relatively small plant, the assignments will be common in many parts.

All the above observations will be compiled and documented by the SHE to serve the following purposes:

- Identification of any environmental problem, which may occur in the plant or surrounding area
- Initiating or providing solutions to those problems through designated channels and verification of the implementation status
- Control of activities inside the plant, until the environmental problem has been corrected
- Suitably respond to emergency situations. Provide details of the emergency and the actions taken to the top management  
Suitably make modifications or alterations in the plant to meet regulatory standards as amended from time to time.

## **10.0 SUMMARY AND CONCLUSIONS**

The proposed relocation and installation sponge iron plant will have marginal impacts on the local environment. However, with the implementation of the propose relocation and installation pollution control and environment management measures, the minor impacts anticipated due to construction and operation of the propose relocation and installation plant will be mitigated.

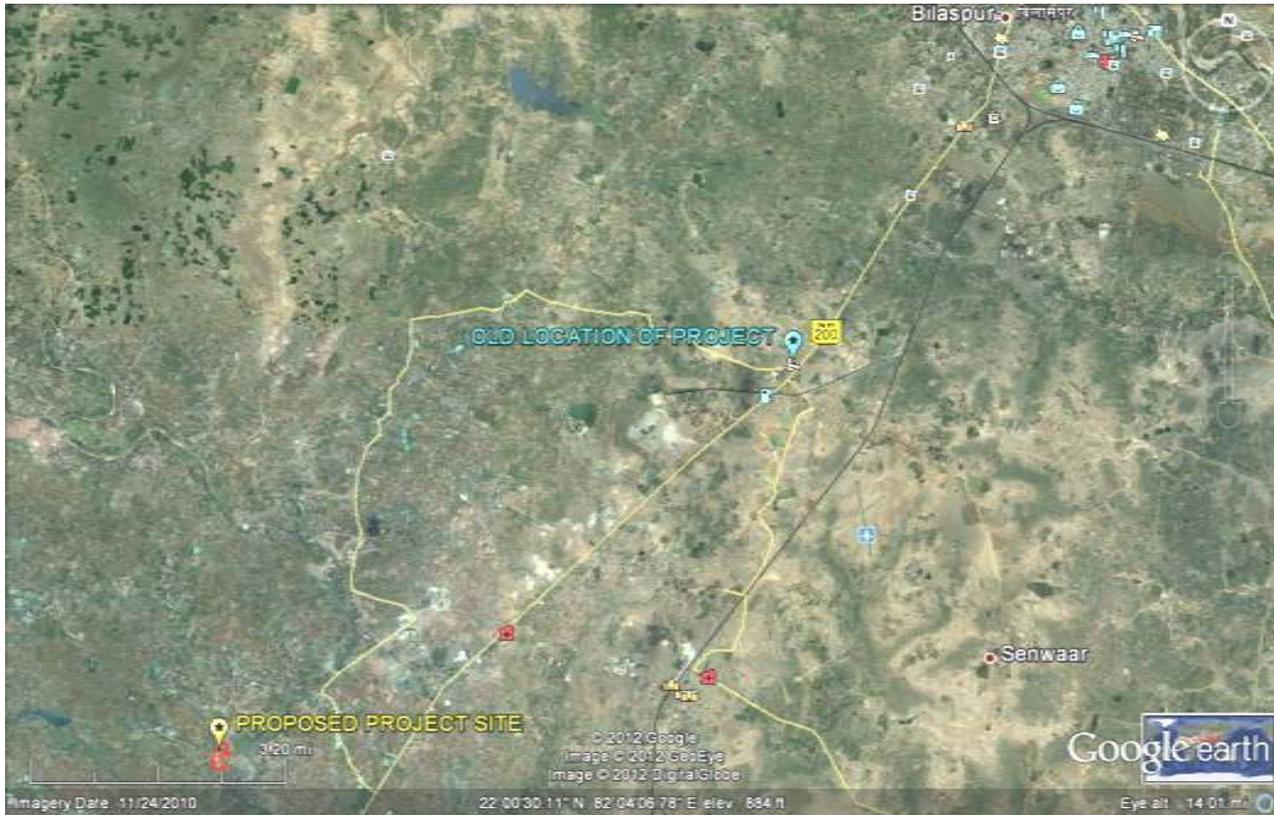
The proposed relocation and installation project will provide employment to about 100 persons during construction phase and about 100 persons during operational phase. Apart from the employment and business opportunities for the local people, they will also be benefited in the areas such as education, health care, infrastructure facilities, livestock management, nonfarm livelihood, social mobilisation etc.

Thus, this project will lead to overall development of the region in particular and the state in general. This project will also generate indirect employment to a considerable number of families, who will render their services for the employees of the project.

Thus, in view of considerable benefits from the project without any major adverse environmental impact, the propose relocation and installation project is most advantageous to the region as well as to the nation.



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OLD LOCATION OF PROJECT



PROPOSED LOCATION OF PROJECT

**FIGURE 1.1**  
**GOOGLE MAP OF THE PROJECT SITE SHOWING OLD AND NEW LOCATION**