

# SOCIAL IMPACT ASSESSMENT FOR THE PROPOSED EXPANSION OF ALUMINIUM SMELTER PRODUCTION CAPACITY FROM 5.75 LTPA TO 10.85 LTPA AT RISDA VILLAGE, KORBA TEHSIL, KORBA DISTRICT CHHATTISGARH

**Sponsor :**



**M/s. Bharat Aluminium Company Ltd (BALCO)**  
*Korba, Chhattisgarh*

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**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

## Table of Contents

Chapter	Title	Page
	Table of Contents	TC-1
	List of Figures	TC-II
	List of Tables	TC-III
1.0	Introduction	1
2.0	Methodological Approach of the Study	19
3.0	Analysis and Interpretation of Data	33
4.0	Major Findings and Inferences	57
5.0	Suggestions and Implications for Balco to Introduce CSR Activities	64

### List of Annexures

- Annexure-1 In-depth interview/FGDs form
- Annexure -1a Village profile
- Annexure-2 Village Wise Land Use Data
- Annexure-3 Village Wise and urban area wise Demographic Details as Per 2011 Census
- Annexure-4 Educational Facilities in The Rural Study Area
- Annexure-5 Health Facilities in the Rural Study Area
- Annexure-6 Drinking Water Facilities Availability in Number of Villages in the Study Area
- Annexure-7 Average Drinking Water Facilities in Urban Area of the Study Area
- Annexure-8 Communication Infrastructure on the Rural Study Area
- Annexure-9 Drainage Facilities In the Rural Study Area
- Annexure-10 Drainage Facilities in the Urban Study Area
- Annexure-11 Village Wise Available SHGs and Banking Facilities In The Study Area
- Annexure-12 Availability of Power Supply in the Rural Study Area
- Annexure-13 Road Connectivity in the Rural Study Area



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

### List of Figures

Figure	Title	Page
1	Index Map	4
2	Study Area Map (10 Km Radius)	5
3	Google Map of Study Area (10 Km Radius)	6
4	Study Area Map Showing Industries in 10 Km Radius	7
5	Tenets of Community Development in Balco	10
6	Focus areas of Balco's community programs	11
7	Rural health post and and mobile health camp	13
8	Farmers Linked With Goat Rearing	16
9	Trench dug for watershed	16
10	SHGs being added under project unnati	16
11	Indigenous Tribes Benefitted Under Wadi	17
12	Indigenous Tribes Benefitted Under Wadi	17
13	Focus group discussion in Dondro village	24
14	Focus Group Discussion in Dondro Village Cultivable Labourers	24
15	Focus Group Discussion in Korba Ward No 33	25
16	Focus Group Discussion in Sonpuri Village, Korba Tehsil	25
17	Focus Group Discussion in Korba Ward No 32	26
18	Focus Group Discussion in Bela Village	27
19	Focus Group Discussion in Jambahar Village	27
20	Focus Group Discussion in Sonpuri Village (Katghora Tehsil)	28
21	Focus Group Discussion in Bhatgaon Village	28
22	Focus Group Discussion in Aurakachhar Village	29
23	Vedanta Grameen Vikas Kendra in Chuiya Village	43
24	Interview with dr. dilip kumar sahuo in chuiya gameena vikas kendra hospital	44
25	Balco Hospital in Balco Township	44
26	Pond in Rishda Village near Balco Plant with Domestic Washings	46
27	Interview with Korba Municipal Corporation Executive Engineer Mr.R.K.Maheswari about Drinking Water Facilities In Korba Municipal Corporation.	47
28	Newly Constructed Water Tank in Ward Number 40	47
29	Anganwadi Center in Dondro Village	52
30	Katcha Road in Bhatgaon Village	59



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

### List of Tables

<b>Tables</b>	<b>Title</b>	<b>Page</b>
1	Environmental Setting	3
2	Location Wise Community Consultation	22
3	Village wise, ward wise population details	30
4	Land use pattern in the study area	33
5	Distribution of population	35
6	Distribution of population by social structure	36
7	Distribution of literate and literacy rates	37
8	Occupational structure	38
8a	Occupational structure (Main workers, Marginal workers)	38
9	Educational Facilities in the Rural Study Area	41
10	Health Facilities in the Rural Study Area	42
11	Drinking water facility available in number of villages in the Rural study area	45
12	Average drinking water facilities in the urban area of the study Area	46
13	Communication Infrastructure on the Rural Study Area	48
14	Drainage Facilitates In the Rural Study Area	49
15	Available Drainage Facilitates In the Urban Study Area	50
16	Village Wise Available SHGs & Banking Facilities in the Study Area	51
17	Village Wise Agricultural Products in the Study Area	53
18	Availability of Power Supply in the Rural Study Area	54
19	Road Connectivity in the Rural Study Area	59
20	CSR Expenditure 2014 to 2017	67



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

## 1.0 INTRODUCTION

**Bharat Aluminum Company Ltd (BALCO)** was established at Korba, Madhya Pradesh (presently Chhattisgarh) as a Government of India undertaking with integrated smelter capacity of 1 LTPA (1,00,000 tonnes per annum) with Soder berg technology employing 100 kA cells and alumina refinery capacity of 2 LTPA. The plant was started in 1973, BALCO was taken over in 2001 by Sterlite Industries, an associate of Vedanta Resources, PLC.

Group is having a total revenue of more than 13 billion US\$ sustaining global leadership of non-ferrous metals and optic fibre business. Vedanta has a growing interest in copper aluminium, zinc, silver lead, iron ore and gold & optical fibre cable in India, Australia, North America, Zambia and the UK.

Since 2001, BALCO modernized & expanded the plant in the following phases:

- (i) Setting up a 2,50,000 TPA pre-baked technology smelter and 540 MW coal based power plant employing GAMI – China 320 KA technology;
- (ii) Expanding further by installation of 3.25 LTPA aluminium and 1,200 MW (4X300 MW) coal based Thermal Power Plant (TPP) employing GAMI China 340 KA) pre baked anode technology. While installing 3.25 LTPA smelter, original 1 LTPA Soderberg smelter was dismantled favoring environmental friendly pre baked technology. 3.25 LTPA smelter included 336 no 340 KA pots and ingot casting capacity of 1.50 LTPA & wire rod of 2.00 LTPA capacity.
- (iii) The previous expansion was undertaken based on the EC which was granted by MOEF for the expansion of aluminium smelter plant from 3.5 LTPA to 9.0 LTPA. Under the said EC, smelter plant of 3.25 LTPA was constructed and 1 LTPA Soderberg smelter was dismantled. However, the remaining capacity of 3.25 LTPA was not constructed due to prevailing economic scenario at that point of time. The said EC expired in September, 2015. Now Balco is expanding its existing aluminium production capacity by 5.1 LTPA in the area earmarked for balance 3.25 LTPA smelter capacity by incorporating advanced state of the art environment friendly technology.

BALCO is presently contemplating to undertake brown field expansion of the smelter by installing 5.10 LTPA (5,10,000 TPA) by employing 500/600 kA cell technology. It is proposed that the said smelter shall be constructed at the designated area, earlier proposed for 3.25 LTPA aluminium smelter.

### • **Purpose of the Report**

As per Environmental Impact Assessment EIA Notification dated 14<sup>th</sup> September, 2006, the proposed expansion project falls under category 'A' of project activity 3(a) requires prior Environmental Clearance (EC) to be obtained from MoEF&CC before the commencement of ground activity.



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

The application for prior EC (Form-1 and Pre-feasibility Report) for the proposed project has been submitted to MoEF&CC on 20<sup>th</sup> August, 2017 and same was reviewed by 22<sup>nd</sup> reconstituted Expert Appraisal Committee (Industry-I) held during 11<sup>th</sup>-13<sup>th</sup> September, 2017 in New Delhi to prescribe Terms of Reference (TORs) for the preparation of EIA/EMP report. ToR has been issued by MoEF&CC vide letter F.No. J-11011/123/2007-IA II (I) dated 19<sup>th</sup> September, 2017.

With a view to assess the environmental impacts arising due to the proposed capacity expansion project, **M/s. Bharat Aluminum Company Ltd (BALCO)** has retained the services of NABET accredited EIA Consultant **M/s. Vimta Labs Limited (VLL)**, Hyderabad to prepare EIA report for various environmental components including air, noise, water, land and biological components along with parameters of human interest which may be affected and to prepare an Environment Management Plan (EMP) for mitigating possible adverse impacts.

- **Brief Description of Project**

Nature of the Project

The existing BALCO integrated aluminium complex comprise 2 smelter units totaling 5.75 LTPA capacity (2,50,000 TPA + 3,25,000 TPA) along with all auxiliary facilities, thermal power plants totaling 4 x 67.5 MW (270 MW near in NTPC Jamanipali, Korba), 4 x 135 MW (540 MW) and 4 x 300 MW (1200 MW).

Now BALCO intends to install 5.10 LTPA (5,10,000 TPA) aluminium smelter and associated facilities in the factory premises at Balco complex. It is designated as "Brownfield Smelter" with associated facilities. Power requirement for smelter expansion shall be met from the existing power plants. There will not be any increase in power generation capacity as part of this expansion.

Location of the Project

The proposed expansion project site is within the premises of BALCO integrated aluminium complex at Risda village, which falls in Korba tehsil, Korba district in Chhattisgarh state.

It is well connected with road network; the nearest road is National Highway-149B (connecting Champa to Katghora) in a distance of 1 km in west direction from the project site. The nearest railway station is Korba railway station in a distance of 6 km in south west direction from the project site.

Environmental Setting


The environmental setting of the project site is given in **Table-1**. The index map of the project is shown in **Figure-1**. The study area map and google image of 10 km radius around the project site are shown in **Figure-2** and **Figure-3**. The existing plant and proposed expansion site and industries are within 10 Km radius shown in **Figure-4** respectively.



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

**TABLE-1  
ENVIRONMENTAL SETTING**

Sr. No.	Particulars	Details
1	Latitude & Longitude	a) Latitude: 22°23'24.5"N to 22°23'49.73"N b) Longitude: 18°43'32.4"N to 18°44'09.5"N
2	General elevation above MSL	300 m
3	Present land use at the site	Industrial land
4	Nearest highway	NH-149B (1.0 km, W)
5	Nearest railway station	Korba (6.0 km, SSW)
6	Nearest airport	Raipur (220 km, SW)
7	Nearest town/City	Korba (5.2 km, SSW)
8	Hills/valleys	Nil in 15 km radius
9	Topography	Plain
10	Archaeologically important places	Nil within 15 km radial area
11	National Parks / Wildlife Sanctuaries	Nil within 15 km radial area
12	Reserved/ Protected Forests	<ul style="list-style-type: none"> <li>• Dense mixed jungle, Risda (1.3 km, ESE)</li> <li>• Protected forest near Bhalumara (6.5 km, SSE)</li> <li>• Protected forest near Naktikhar (6.6 km, SE)</li> <li>• Protected forest near Rampakharra (7.2 km, S)</li> <li>• Protected forest near Bhargaon (7.2 km, N)</li> <li>• Protected forest near Bundeli (9.7 km, SE)</li> </ul>
13	Seismicity	Seismic Zone-III as per IS 1893 (Part I): 2005
14	Streams/Rivers	<ul style="list-style-type: none"> <li>• Belgari nala (0.1 km, NW)</li> <li>• Dhengu nala (0.1 km, S)</li> <li>• Hasdeo river (1.5 km, W)</li> </ul>
15	Defence Installations	Nil
16	Land requirement	The proposed expansion project will be implemented in the existing plant premises only. There will not be any additional land requirement for the project. Further, there will not be any rehabilitation and resettlement under this expansion project



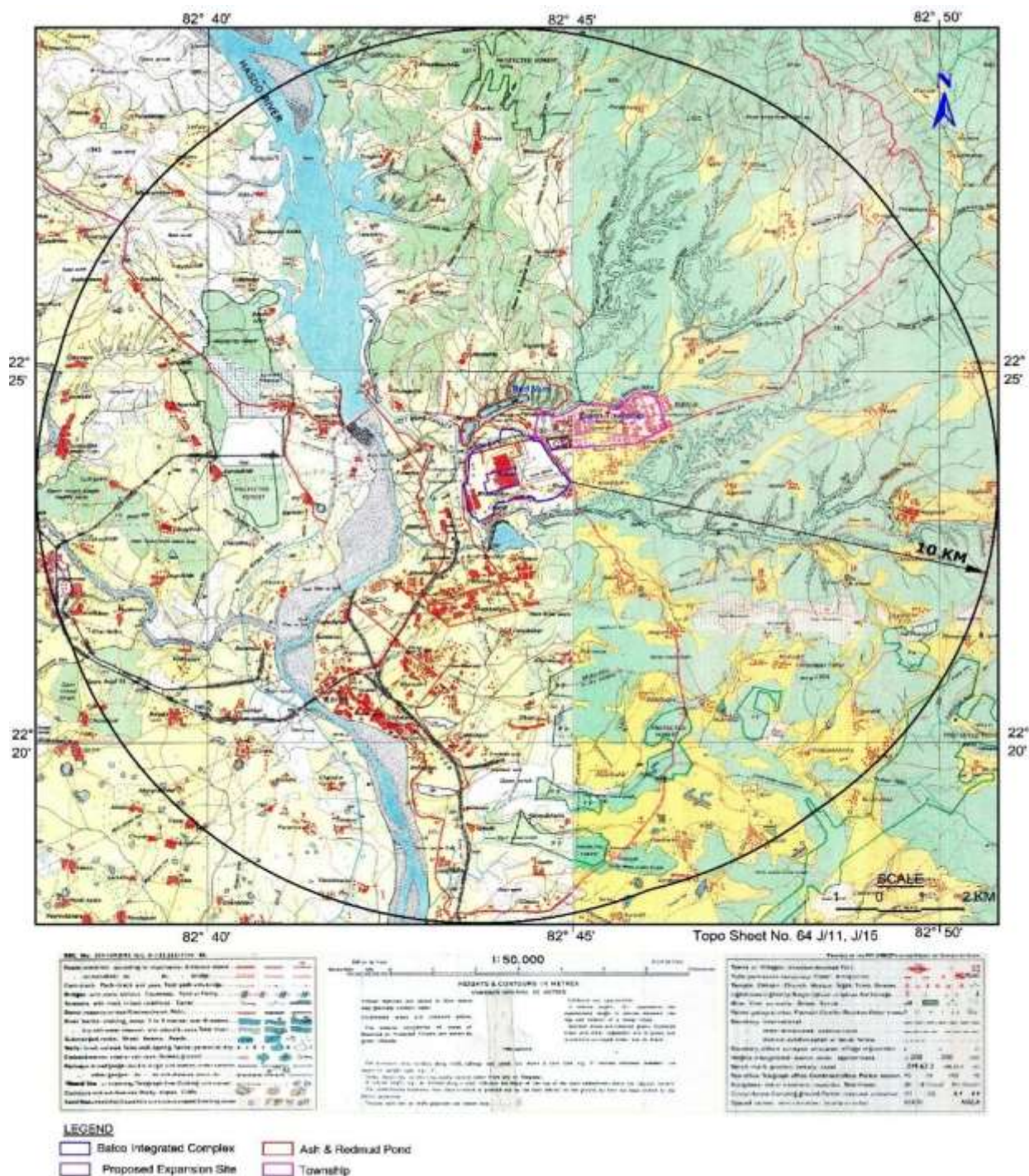
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**FIGURE-1**  
**INDEX MAP**

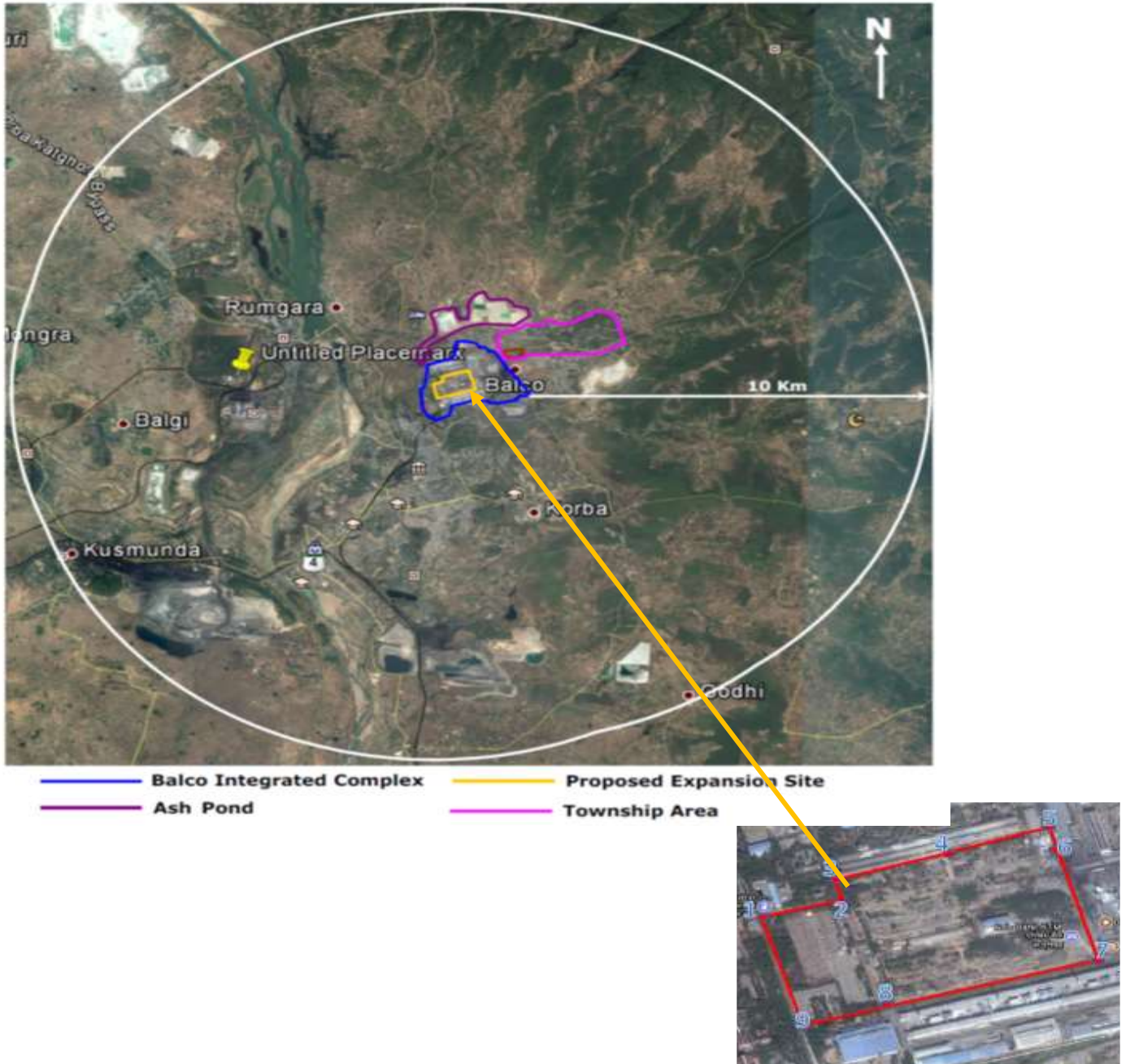


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**FIGURE-2**  
**STUDY AREA MAP (10 KM RADIUS)**

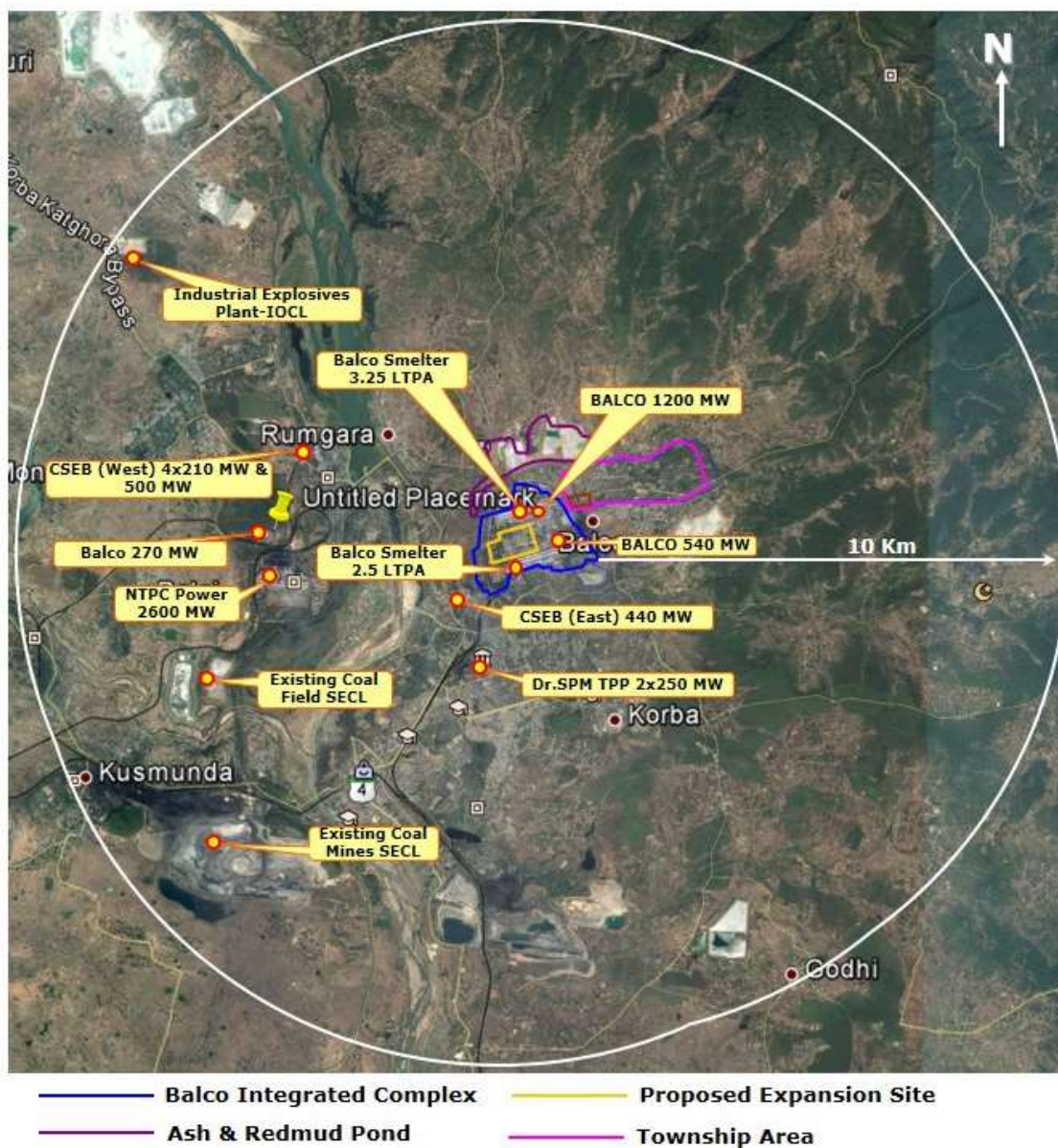
	<p><b>Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh</b></p>
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**FIGURE-3**  
**GOOGLE IMAGE (10 KM RADIUS)**



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**FIGURE-4**  
**LIST OF INDUSTRIES IN 10 KM RADIUS AROUND THE PROJECT SITE**



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## 1.1 Need for the Social Impact Assessment (SIA) Study

As per the TOR point No. 14.iii) The project proponent should carry out Social Impact Assessment (SIA) of the project as per the Office Memorandum no J-11013/25/2014-1A dated 11.08.2014 issued by the Ministry regarding guidelines on Environment Sustainability and CSR related issues. The social impact assessment study so carried out should form part of EIA and EMP report:

- **TOR Points**

### Annexure 1

Generic TOR point 4 XI) Status of acquisition of Land. If acquisition is not complete stage of the acquisition process and expected time of complete possession of the land.

Generic TOR point 4 XII) R&R details in respect of land in line with state Government policy

Generic TOR point 6 XI) Socio- Economic status of the study area

Generic TOR point 11) Enterprise Social Commitment (ESC): To address the Public Hearing issues, towards Enterprise Social Commitment (ESC). Distinct ESC projects shall be carved out. Project estimate shall be prepared based on PWD schedule of rates for each distinct item and schedule for time bound action plan shall be prepared. These ESC projects as indicated by the project proponent shall be implemented along with the main project. Implementation of such program shall be ensured by constituting a committee comprising of the project proponent, representatives of village & district administration. Action taken report in this regard shall be submitted to the Ministry's Regional Office. No free distribution/donations and or free camps shall be included in the above ESC budget.

### **BALCO's CSR overview**

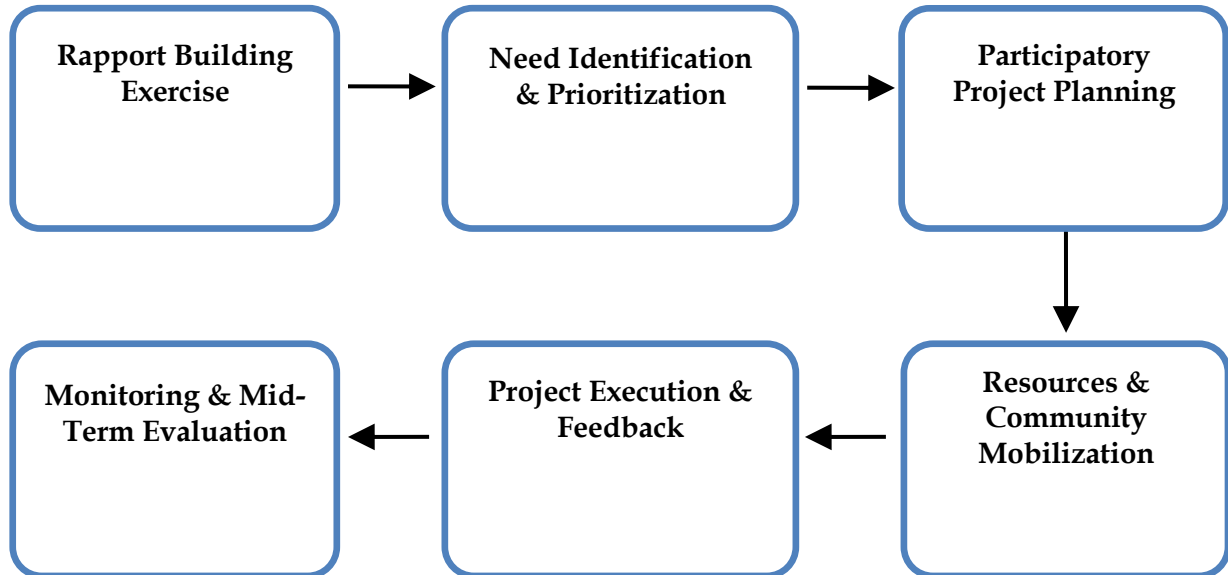
At Bharat Aluminium Company Limited (BALCO), **Corporate Social Responsibility** is all about developing a business model that not only creates economic value but also contributes to a healthy ecosystem and strong communities. Our endeavor is to evolve and develop appropriate business processes and strategies to achieve a common goal which contributes to the greater good.

Our CSR projects are spread across 117 villages in 3 districts of Chhattisgarh and touches lives of more than 1.5 lakh people.



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### Operational Approach




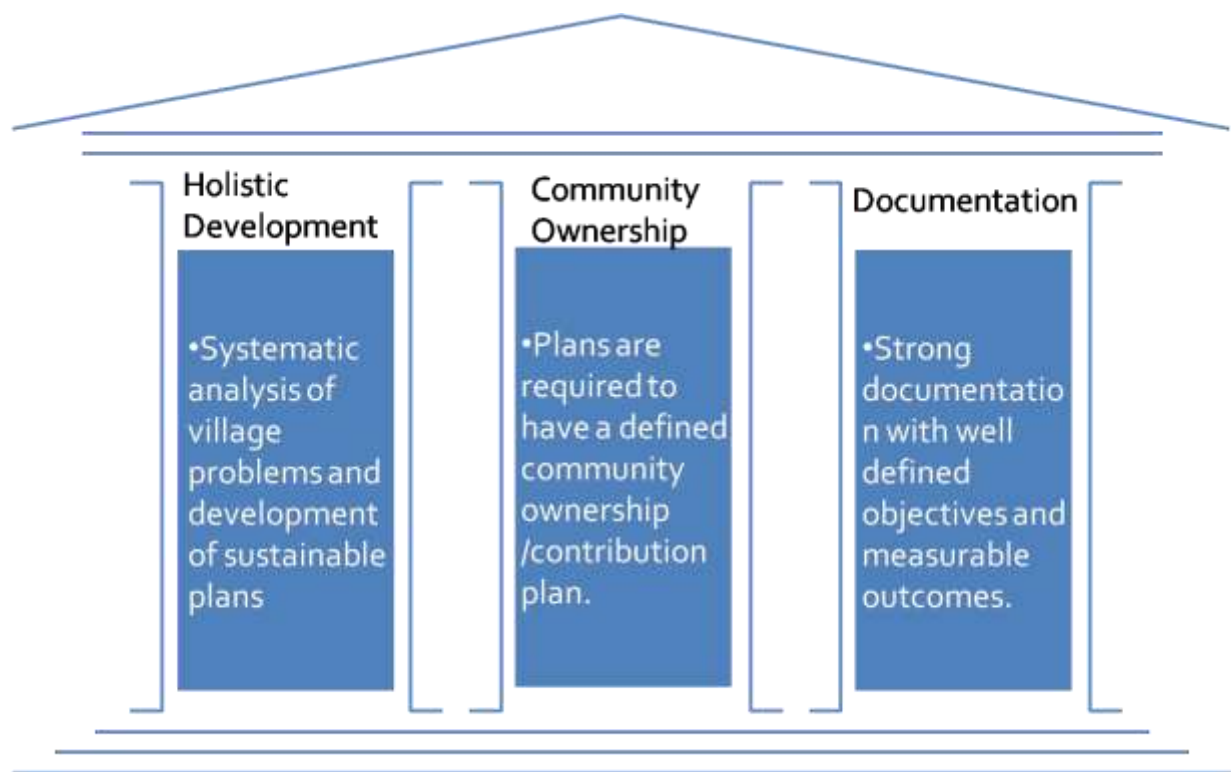
### Process of CSR Initiatives

The projects are implemented after the long process of CSR initiatives. Following are the processes being applied for the sustainable CSR Initiatives undertaken at unit level.

The company has identified focus areas across which it works with communities for a range of activities. These areas follow corporate guidelines of social investment. A brief of the tenets of social investment guidelines is presented below.

The projects are classified by focus areas of intervention by BALCO. These areas have been derived from requirements of community as well as considering the data available through government agencies responsible for implementing social projects across the state. These thrust areas are as follows:

	<p><b>Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh</b></p>
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**FIGURE-5**  
**TENETS OF COMMUNITY DEVELOPMENT IN BALCO**



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#### Livelihood

- **Farm Based**
  - Watershed Project
  - Waadi
  - Land and water Management
- **Non Farm Based**
  - Vedanta IL&FS Skills School
  - Project Unnati



#### Infrastructure

- Public Utilities
- Drinking Water Facilities
- Community Infrastructure
  - Roads,
  - Community center,
  - Rural haat



#### Education

- Scholarships
- Mid day meal Program
- School Upgradation Program



#### Health

- Rural Health Post
- Project Mamta
- Specialized Health Camps
- Project Jagriti- HIV AIDS

**FIGURE-6**  
**FOCUS AREAS OF BALCO'S COMMUNITY PROGRAMS**



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

Presently, the programs are spread across 117 villages and reach over 1.58 lakh people. Apart from these, core projects are enhanced by programs for communities in areas such as:

1. Vedanta Therapy Center;
2. Rural Sports Competition;
3. Afforestation;
4. Training to SHGs;
5. Immunization Camps;
6. Malaria Eradication Camps.

**Vedanta Therapy and Rehabilitation Centre (VTRC)** is a dedicated center for differently abled children with dedicated specialist in the area of speech therapy, physiotherapy etc. The project was designed to fill in the gap of a professionally run center for enhancing quality of life of differently abled children. The center is run with the help of a dedicated agency with proven expertise in this area and has benefitted more than 5500 children in Korba and nearby areas. The center has experts for therapy such as speech, motor, learning through scientific equipment and practices to enable the children to lead an enriched life.

- **Community Health Initiatives**

<b>Name of Project</b>	<b>Beneficiaries</b>	<b>Areas Covered</b>
<b>Project Mamta</b>	5450 children from 117 anganwadi centers in Kawardha	Kawardha
<b>Rural Health Post</b>	22031 people benefited through Health Post and Camp at designated places	76 villages of Korba, Kawardha and Mainpat
<b>Vedanta Therapy and Rehabilitation Center</b>	More than 5500 differently abled children in the last 5 years	Korba district
<b>Project Jagriti</b>	18012 people of high risk groups were covered	Korba district

BALCO reaches to over 62 villages through its health camps organized every alternate day since the last 4 years. The rural health post at Chuiya 8 km from Balco plant in Korba has provided primary medical services and is well equipped with a computerized laboratory to generate medical reliable pathological reports. The center has been the main stay for medical needs of more than 10000 people in the region. Besides, this the company has started rural health post in Mainpat on similar lines.



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**FIGURE-7**  
**RURAL HEALTH POST AND AND MOBILE HEALTH CAMP**

### **Project Jagriti**

To sensitize the community on the rising menace of HIV/AIDS, BALCO is running a targeted HIV AIDS program designed to create awareness amongst sections that are at risk of infection. The project "Jagriti" is in partnership with State HIV-AIDS Control Society and has identified the following as vulnerable:

1. Migrants,
2. Truckers,
3. Sex Workers.

The vulnerable pockets were identified around the plant and regular camps were organized. The highlight of the camps is that people engaged through on spot games. Once people gather then they are asked simple questions about HIV-AIDS and answered on spot. There is also an option to get VDRL testing on the spot. Those who are tested positive are then counseled separately.

Another method to reach out is through awareness camps in residential areas for women and youth. They are counseled separately by male and female counselors who cover the following topics:

1. What is AIDS
2. How does it spread?
3. How can it be prevented?

The counseling help address the misconceptions around HIV-AIDS head on.

To engage truckers the gate of BALCO where they spent some time before being permitted in was identified as a suitable time to reach out. Truckers have little awareness about HIV -AIDS, though many are aware about the name and have notions about it. BALCO has partnered with truckers association to facilitate the approach to the community.

There are wider outreach events on World HIV-AIDS Day for the larger community, college going students to understand about HIV-AIDS.



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

### **Sustainable Livelihood Programs-Towards Improving Quality of Life**

BALCO has undertaken many initiatives to provide diverse livelihood avenues within the community. The various sustainable livelihood programs they are running are based on multiple study reports and observations in the vicinity. CSR wing is aiming to make the livelihood of people in the community sustainable in three ways such as:

1. Increase the socio-economic status through the income generation activities.
2. Equip the project affected population by improving earning capacity if they are unemployed; and
3. Encourage savings.

In addition to the above mentioned activities, they have also taken up various skills development initiatives for the women and youth and also they have planned some innovative techniques in agriculture, provide support for common well and farm pond deepening. In other initiatives, capacity building for various village institutions and groups has also been undertaken.

The focused initiative of imparting of vocational skills among rural youth and link them with job opportunities through Vedanta IL&FS skills school has been a remarkable success. The project was established as the state has identified skilling of more than 2 million youth as its target by 2020. The state skills development corporation was established. Taking a leaf from that BALCO identified skills that can have direct employability; the project differed from existing ITIs by making the program.

- A) Completely residential;
- B) Aligning with gaps in skilled labour in industry and training as per industry specific requirements to ensure maximum employability; and
- C) Soft skills and computer training.

The organization runs one of its kind skill center in the state in partnership with IL&FS Skills Corporation. The Vedanta IL&FS skills school has so far trained more than 3937 youth of the state in 4 trades namely: hospitality, stitching, welding and electrical fitting. The program is certified by NSDC. The participants are enrolled in a 30-45 day course and given the following absolutely free:

Further, the following facilities are provided to them free of cost:

1. Uniform;
2. Boarding and lodging;
3. Transportation from hostel to skills school;
4. Computer and English training; and
5. Placement in companies across India.



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

This project has been appreciated by the Secretary of Technical Education in Chhattisgarh Mrs. Nidhi Chibbar who has made it a model centre for opening up such schools in LWE (left wing extremism) affected areas of south Chhattisgarh. 1 additional trade of fitter has been added. The youths have graduated from Skill School and the trained youths have been placed in reputed organizations. They are earning a decent monthly income of about Rs 8000 to 10000 per month (includes food and lodging). They have been placed in leading companies of India such as Havells, suppliers to Honda, TVS, Hero Moto Corp, Babylon Group etc. The project is now a widely acknowledged and awarded benchmark in the state.



### **Watershed Development**

BALCO completed watershed project in association with NABARD. The project started in 2008. BALCO and NABARD is sharing 50-50 of project cost. Under watershed development program structures and mobilization (community and resources) is being done by a NGO named social revival group of urban rural and tribe's (SROUT), Korba with the help of village watershed committee of village Bhatgaon, Rogbahari, Saraipali and Parsakhola.

There are two stages of implementation of watershed development program. First is capacity building phase and the second is main phase. But due to some issues related to forest and planning, Parsakhola watershed development project



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

had three stages of implementation. First was capacity building phase, second was interim phase and last was main phase.

Parsakhola watershed development project is in ending of their main phase. BALCO have made structures and done training programs for water and soil conservation, agriculture activity enhancement, allied activity enhancement, SHG's livelihood etc.

Main achievements of the projects:

- Converted 100 acres of waste land into cultivable land;
- Farmers started commercial vegetable cultivation; and
- 30% increase in yield of paddy.



**FIGURE-8**  
**FARMERS LINKED WITH GOAT REARING**



**FIGURE-9**  
**TRENCH DUG FOR WATERSHED**

### **Land and Water Management**

Balco has signed a MoU with NABARD and AFPRO to implement land and water management project in 4 core villages of Korba. 10 days training programs in association with district fishery department was organized to encourage farmers to take fishery as alternate livelihood source. 4 units of farm pond, 15 units of farm well & 6 unit of check dam constructed in target areas to improve the agro productivity which benefitted more than 200 farmers.



**FIGURE-10**  
**SHGs BEING ADDED UNDER PROJECT UNNATI**



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

**Under Tribal Development Project – Wadi**, orchard has been developed on the land of 1,000 tribal families of Mainpat and Kawardha. The fallow land has been planted with Mango, Jackfruit, Amla and other commercial value saplings. The project's scope was enhanced and now covers 750 families and the 7 year project will ensure that Indigenous people in these areas (belonging to the Baiga tribe) can be linked with sustainable income generation activities. The project is being done with resource contribution of NABARD which provides technical assistance as well resources for capacity building initiatives. The project which was originally created as the tribal refused to plough land (they consider land sacred and do not plough) has been a case study in how a corporate has successfully intervened in areas comprising of primarily indigenous people. A highlight of the project is that the project has a built in component of re-plantation to account for plant mortality which has been found to be around 20 percent. A number of fruit bearing trees such as amla, jamun and other cash crops which have maximum commercial implication are grown. Special focus is also made to convert fallow land into orchards. This increases the land under cultivation and also increases the green cover.



**FIGURE-11**  
**INDIGENOUS TRIBES BENEFITTED UNDER WADI**



**FIGURE-12**  
**INDIGENOUS TRIBES BENEFITTED UNDER WADI**



***Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh***

Empowering women under Self Help Group (SHG) Project Unnati, the project is implemented in BALCO project sites with the model of one time investment from BALCO towards capital expense (such as provisioning of machine), a compulsory contribution ranging from 10-20% from the SHG members is taken to ensure their buy-in and bring seriousness. The SHGs are given bank linkages and provided with adequate training and capacity building in areas of accounting and book keeping so that the SHG can run on its own.

This year 14 new SHGs are linked with sustainable livelihood interventions, where 9 SHGs in rabbit rearing, 3 SHGs in goat rearing, 1 SHG in fly ash unit & 1 SHG in Dona making unit.

### **Community Infrastructure**

The community infrastructure program is carried out with the view of improving the availability of quality infrastructure that enhances the quality of life. The projects are carried out at a one time basis (providing one time initial capital expenditure) by identifying gaps in the village infrastructure. A detailed inventory of infrastructure is prepared village wise with inputs from district administration as well as local elected representatives such as Parshad and Sarpanch. Their inputs are taken every year as a part of feedback from key stakeholders as well as during regular interaction which is also part of the KRA for managers in Community relations department. The projects are prioritized based on the immediate needs of the community as well as whether the project is in core project areas or not.

The projects include creating access for rural communities to main roads by creating CC roads which provide all weather connectivity. Passenger shelters in remote areas where people often have to wait for long for bus. Community centers and community stage have been created which act as a point of community congregation. The centers are used for marriage in the community as well as for organizing training programs by various agencies including those organized by BALCO.

To enhance the quality of life of the people residing in nearby villages of BALCO plant, two community center, 2 community drinking water facility, 1200 m of road construction, etc.



***Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh***

## **2.0 METHODOLOGY OF THE STUDY**

This part mainly deals with different methods and techniques which are adopted in carrying the research project. Further, it also reveals the gist of information about techniques and methods of the research plan right from beginning to the end.

- **Title of the Study**

Socio-economic impact assessment (need assessment) and CSR Plan for the expansion of aluminum smelter production capacity from 5.75 LTPA to 10.85 LTPA at Korba, Chhattisgarh by M/s Bharat Aluminum Company Limited (BALCO).

- **Objectives of the Study**

The major objective of the study is to understand the socio-economic situation of the respondents within the project area and making a need based assessment. Further, the concentration of the study is based on following specific objectives such as:

1. To study the socio-demographic and economic background of the study population;
2. To understand the educational and health status of the respondents;
3. To study the conditions of employability and livelihood of the respondents;
4. To make an attempt to understand the resource assessment of the household of the respondents;
5. To assess the needs and priorities of the population, resided in the study area;
6. To reveal the information about the existing CSR activities from the respondents; and
7. To suggest remedies and measures for inclusion of all the stakeholders in the developmental spectrum of the setting.

- **Significance of the Study**

In global context the importance of industrial growth is essential for the overall development of the nation. For this the availability of proper infrastructure is must, of which the aluminium production is playing a vital role. However, in Indian scenario the supply of aluminum is mostly deficient due to lack of investment and proper availability and utilization of resources. Currently, the importance of aluminium smelter plants are predominant. So the attempt has been made by the study agency to thoroughly understand the social, economic, geo-environmental situation in the opinion of respondents, thus making an attempt to propose the different kinds of need based programmes which can help in the development of the study area population. Further, the study results are going to be used for the action planning of Corporate Social Responsibility (CSR), Enterprise social commitment (ESC) activities according to the need and priorities of the project area and also the study findings will be utilized in the direction of reducing socio-environmental and economic burdens. Hence, it is required to



***Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh***

objectively assess the developmental needs of the local communities and to conduct a socio-economic baseline survey. The outcome of the socio-economic impact assessment would serve as inputs in preparing a Corporate Social Responsibility (CSR) plan for the local population.

- **Nature and Scope of the Study**

The current study is predominantly depended on the field experience, data verification, and observation of CSR activities done in the study area. Further, it is the duty of the company to consider general population view on developmental initiatives before putting things into practice. The nature of the study is mainly sample based socio-economic assessment survey. Here each household is considered as the respondent therefore each response which was revealed by the respondent are unique in nature where the values of variables are representing the views of the group of family members. Hence the research agency has taken keen interest to choose the population in all the stages beginning from the study till finalization of the study report. The present study will be of great help in understanding the socio-economic conditions of the population staying in the surroundings of smelter plant. In addition, the study tries to assess the needs of the population in the study area. Lastly the findings of the research are beneficial for the future prospectus and policymaking.

- **Focused Group Discussion (FGD)**

The social impact assessment is made through review of projects documents, start-up meeting, site visit, observation and physical verification of secondary data, consultations with study area population, focused group discussions with youth group and key informant interviews. Focused Group Discussion (FGD) with village opinion leaders was undertaken to understand the overall scenario of the villages, including the aspirations and desires of the community. An effort was made to cover participants across caste, gender and age, so as to get a comprehensive and complete photograph of the area. In the FGD, major issues pertaining to health facilities, nutrition, hygiene, livelihood, income generating activities, access to safe drinking water, education, agriculture, skill development, women empowerment, road connectivity, communication facilities, banking facilities, self-help groups (SHGs) health facilities, transport facilities, drainage facilities, and infrastructure etc. were covered.

- **Survey of Village Infrastructure**

Visits were conducted to the self-help groups, schools, anganwadi centers and health sub-centers in the study area villages, urban areas to collect detailed information about physical as well as social infrastructure, major areas of intervention required, and to identify specific resource gap prevalent in the institutions of these villages.

- **Public Consultation**

Community consultation is an internationally and nationally proved and implemented practice to build a rapport with host community i.e. the people who



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

are to be affected by the project. This eventually acts as a deterrent towards the development of the project. Therefore, it is absolutely necessary to have consultation with the various stakeholders and project study area people from the planning stage of the project. Community consultation was carried out in this project to the extent possible in order to minimize probable adverse impact of the project on the project study area people which is useful during the stage of data analysis. The community consultation process was carried out with the following objectives:


- To ensure enhanced public cooperation due to creation of awareness about purpose and benefits of the project;
- The discussion with the community was through participatory rural appraisal and Focus Group Discussion (FGD) techniques;
- To solicit the views of affected communities/ individuals on social, economic and environment components and the significance of impacts; and
- To serve as an important tool for collecting information about the natural and the human environments, much of which would never be accessible through more traditional approaches of data collection.

- **Technique used for Community Consultation**

Public Consultation and Disclosure was done in fourteen villages and 6 urban wards. 1.Jambahar, 2.Rogbahri, 3.Korba (MCorp.) Ward No.0032, 4. Korba (M Corp.) Ward No.-0033, 5. Korba (M Corp.) WARDNO.-0034, 6.Sonpuri (Korba tehsil), 7. Dondro, 8.Bela, 9.Bhatgaon, 10.Saraipali, 11.Sonpuri (Katghora tehsil), 12.Barkuta, 13. Korba (M Corp.) WARD NO.-0037, 14.Aurakachhar, 15.Chuiya, 16. Bundeli, 17. Korba (M Corp.) WARD NO.-0046, 18.Khairbhavna, 19.Padhnia, 20. Korba (M Corp.) WARD NO.-0019, taking into account state and central guidelines. In line with those guidelines notice of disclosure meetings was put on the notice board of the buildings and prominent places where people were informed about the consultation process and permission was sought from each village. The project area people were informed while doing door to door survey to gather in a place decided mainly by the Sarpanch for consultation venue. Techniques used for public consultation are discussed below:


- ❖ **Transect Walk:** Along the project boundary with professional from multidisciplinary team;
- ❖ **Group Consultations:** Social and gender group wise consultation;
- ❖ **On-site Rapid Consultation:** Interaction with village elders, sarpanch, community leaders;
- ❖ **PRA Technique:** Participatory technique of appraisal for identification of problem and potential of project; and
- ❖ Communities meeting plays a key role in consultation.

Level 1-Interaction with Community Groups: The interaction with community groups were conducted in 14 villages, 06 Korba Municipal wards within the project site. The location wise consultations are presented in **Table-2**.

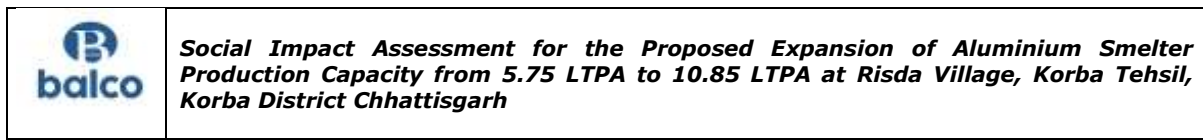
	<b>Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh</b>
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**TABLE-2**  
**LOCATION WISE COMMUNITY CONSULTATION**

Sr. No.	Name of Village	Date of Consultation	No. of Persons	Group Composition
1	Jambahar	21/10/2017	12	Village Sarpanch, Villagers, Agricultural & Non-agricultural Labourers, people of the village, Near factory workers.
2	Rogbahri	21/10/2017	12	Village Sarpanch, Villagers, Agricultural & Non-agricultural Labourers, people of the village, Near factory workers.
3	Sonpuri (Korba Tehsil)	24/10/2017	9	Villagers, Agricultural & Non-agricultural Labourers, people of the village, Near factory workers.
4	Dondro	14/10/2017	8	Villagers, Agricultural & Non-agricultural Labourers, people of the village, Near factory workers.
5	Bela	18/10/2017	10	Villagers, Agricultural & Non-agricultural Labourers, people of the village, Near factory workers.
6	Bhatgaon	14/10/2017	10	Villagers, Agricultural & Non-agricultural Labourers, people of the village, Near factory workers.
7	Saraipali	15/10/2017	11	Villagers, Agricultural & Non-agricultural Labourers, people of the village, Near factory workers.
8	Aurakachhar	15/10/2017	15	Villagers, Agricultural & Non-agricultural Labourers, people of the village, Near factory workers.
9	Sonpuri (Katghora Tehsil)	16/10/2017	15	Villagers, Agricultural & Non-agricultural Labourers, people of the village, Near factory workers.
10	Barkuta	25/10/2017	14	Villagers, Agricultural & Non-agricultural Labourers, people of the village, Near factory workers.
11	Chuiya	17/10/2017	08	Villagers, Agricultural & Non-agricultural Labourers, people of the village, Near factory workers.
12	Bundeli	20/10/2017	12	Villagers, Agricultural & Non-agricultural Labourers, people of the village, Near factory workers.

	<b>Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh</b>
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Sr. No.	Name of Village	Date of Consultation	No. of Persons	Group Composition
13	Khairbhavna	16/10/2017	13	Villagers, Agricultural & Non-agricultural Labourers, people of the village, Near factory workers.
14	Padhnia	17/10/2017	15	Villagers, Agricultural & Non-agricultural Labourers, people of the village, Near factory workers.
15	Korba (M Corp.) WARD NO.-0032	22/10/2017	20	Urban area population, Skilled and unskilled workers, surrounding factory workers.
16	Korba (M Corp.) WARD NO.-0033	22/10/2017	12	Urban area population, Skilled and unskilled workers, surrounding factory workers.
17	Korba (M Corp.) WARD NO.-0034	23/10/2017	15	Urban area population, Skilled and unskilled workers, surrounding factory workers.
18	Korba (M Corp.) WARD NO.-0037	23/10/2017	14	Urban area population, Skilled and unskilled workers, surrounding factory workers.
19	Korba (M Corp.) WARD NO.-0046	18/10/2017	16	Urban area population, Skilled and unskilled workers, surrounding factory workers.
20	Korba (M Corp.) WARD NO.-0019	25/10/2017	10	Urban area population, Skilled and unskilled workers, surrounding factory workers.



**FIGURE-13**  
**FOCUS GROUP DISCUSSION IN DONDRO VILLAGE**



**FIGURE-14**  
**FOCUS GROUP DISCUSSION IN DONDRO VILLAGE CULTIVABLE LOBOURERS**



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**



**FIGURE-15**  
**FOCUS GROUP DISCUSSION IN KORBA WARD NO 33**



**FIGURE-16**  
**FOCUS GROUP DISCUSSION IN SONPURI VILLAGE, KORBA TEHSIL**



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**



**FIGURE-17**  
**FOCUS GROUP DISCUSSION IN KORBA WARD NO 32**



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**



**FIGURE-18**  
**FOCUS GROUP DISCUSSION IN BELA VILLAGE**



**FIGURE-19**  
**FOCUS GROUP DISCUSSION IN JAMBAHAR VILLAGE**



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**



**FIGURE:-20**  
**FOCUS GROUP DISCUSSION IN SONPURI VILLAGE (KATGHORA TEHSIL)**



**FIGURE-21**  
**FOCUS GROUP DISCUSSION IN BHATGAON VILLAGE**



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**



**FIGURE-22**  
**FOCUS GROUP DISCUSSION IN AURAKACHHAR VILLAGE**

- **Analysis of Data**

The following procedure was adopted for the content analysis of the qualitative data:

- **Separating:** The responses to a particular question were listed to obtain the range of responses for all open-ended questions. The responses that were considered irrelevant under a specific question were moved under the appropriate question for analysis. During this process, important statements were extracted for use in the report as reference material;
- **Screening:** In the final screening, for every open-ended question, responses were coded according to the domains. Some responses could be placed under more than one domain as a range of views were stated in a single sentence. After scrutiny, the responses found to be irrelevant were discarded; and
- **Summarizing:** Similar information sought from different stakeholders was triangulated to arrive at a conclusion. The results were then summarized for each issue separately.

- **Study Design**

The design used for the present study is descriptive in nature. The study agency aims to present the information of the study area as it is and in a describing manner, with no intervention made by the project proponent. Hence, the applied design is descriptive design which is apt for the present study.



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

Descriptive research is a study designed to represent the participants in an accurate way. The three main ways to collect this information are: Observational, defined as a method of viewing and recording the participants. Case study, defined as questionnaire interview study of an individual or group of individuals. The sample In-depth interview form is given in **Annexure-1**, village profile is given in **Annexure-1a**.

- **Sample Size and Technique**

The social impact assessment is made through review of projects documents, start-up meeting, site visit, observation and physical verification of secondary data, consultations with project affected population and project displaced population, focused group discussions with youth group and key informant interviews. The urban area under the study area consists 20756.18 ha (59.03%), the rural area consists 14405.72 (40.97%) of the total geographic area. With the help of officially published statistical data from Chhattisgarh and Census of India 2011 data, the study agency has chosen sixteen (14) villages, 06 Korba urban area villages on random sample for focus group discussions (FGDs) which comes under the study area. Total 39 villages and 47 Korba municipal corporation wards are falling in the study area. The total population is 3,53,464 out of which 3,16,247 (81%) belongs to urban area and 37, 217 (11%) population belongs to rural area. The village wise population details are given in **Table-3**.

**TABLE-3**  
**VILLAGE WISE, WARD WISE POPULATION DETAILS**

Sr.No.	Name of Village	No.of House Holds	Total Population	SC Population	ST Population	Total Literates	Total Workers	Non Workers
<b>0-3 km Korba tehsil, Korba district, Chhattisgarh</b>								
1	Jambahar	242	943	71	681	472	454	489
2	Rogbahri	222	906	43	590	445	299	607
3	Korba (M Corp.) WARD NO.-0021	2004	9076	456	915	7158	2870	6206
4	Korba (M Corp.) WARD NO.-0023	1046	4746	333	1010	3136	1902	2844
5	Korba (M Corp.) WARD NO.-0024	1418	6055	684	1908	4464	1992	4063
6	Korba (M Corp.) WARD NO.-0025	1280	5588	1001	851	4145	1836	3752
7	Korba (M Corp.) WARD NO.-0026	649	2942	553	385	2265	795	2147
8	Korba (M Corp.) WARD NO.-0027	1719	7761	1843	620	5560	2386	5375
9	Korba (M Corp.) WARD NO.-0028	747	2921	522	300	2551	1123	1798
10	Korba (M Corp.) WARD NO.-0029	770	3145	271	193	2778	1054	2091
11	Korba (M Corp.) WARD NO.-0030	1214	5037	1060	387	3934	1659	3378
12	Korba (M Corp.) WARD NO.-0031	1299	5668	928	515	4038	2017	3651
13	Korba (M Corp.) WARD NO.-0032	1994	8660	1857	1150	5743	2883	5777
14	Korba (M Corp.) WARD NO.-0033	1742	7575	788	1093	5414	2768	4807
15	Korba (M Corp.) WARD NO.-0034	1396	5715	603	1330	3772	1992	3723
16	Korba (M Corp.) WARD NO.-0009	1148	5420	654	175	4187	1778	3642
17	Korba (M Corp.) WARD NO.-0010	1301	5632	739	440	4139	1752	3880
18	Korba (M Corp.) WARD NO.-0011	1969	7826	1161	746	5385	2497	5329
19	Korba (M Corp.) WARD NO.-0012	1490	6137	506	834	4293	2023	4114
20	Korba (M Corp.) WARD NO.-0013	763	3420	257	467	2787	1027	2393
21	Korba (M Corp.) WARD NO.-0014	1273	5452	527	741	4677	1634	3818
22	Korba (M Corp.) WARD NO.-0015	1262	5496	515	256	4064	1717	3779
23	Korba (M Corp.) WARD NO.-0016	1496	6239	627	369	4536	1947	4292
24	Korba (M Corp.) WARD NO.-0018	2270	9710	1515	506	7592	3132	6578
<b>Katghora tehsil, Korba district, Chhattisgarh</b>								
25	Korba (M Corp.) WARD NO.-0043	1622	6937	562	1499	5000	2373	4564
<b>Sub Total</b>		<b>32336</b>	<b>139007</b>	<b>18076</b>	<b>17961</b>	<b>102535</b>	<b>45910</b>	<b>93097</b>
<b>3-7 km Korba tehsil, Korba district, Chhattisgarh</b>								
26	Sonpuri	341	1224	105	713	676	568	656
27	Dondro (Part)	1080	4848	292	1317	3120	1822	3026
28	Bela	252	1026	8	921	511	400	626
29	Bhatgaon	248	926	126	717	516	243	683
30	Saraipali	138	523	12	444	268	158	365
31	Dumardih	192	833	55	645	421	330	503



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

Sr.No.	Name of Village	No.of House Holds	Total Population	SC Population	ST Population	Total Literates	Total Workers	Non Workers
32	Bhulsidih	241	930	142	581	448	402	528
33	Kesala	209	776	15	592	355	476	300
34	Naktikhar	391	1660	48	1253	923	638	1022
35	Korba (M Corp.) WARD NO.-0001	1367	6766	413	890	5104	2167	4599
36	Korba (M Corp.) WARD NO.-0002	2471	11458	1263	708	7933	3799	7659
37	Korba (M Corp.) WARD NO.-0003	1576	7247	784	118	5487	2378	4869
38	Korba (M Corp.) WARD NO.-0004	1318	6439	156	359	4873	2095	4344
39	Korba (M Corp.) WARD NO.-0005	1632	6824	1398	326	4130	2520	4304
40	Korba (M Corp.) WARD NO.-0007	2294	9949	1027	539	7043	3310	6639
41	Korba (M Corp.) WARD NO.-0008	1503	7151	483	289	4971	2490	4661
42	Korba (M Corp.) WARD NO.-0017	2199	9677	1117	641	7856	3169	6508
43	Korba (M Corp.) WARD NO.-0019	1287	5767	1218	259	3936	1749	4018
44	Korba (M Corp.) WARD NO.-0020	1101	4889	1047	501	3866	1562	3327
45	Korba (M Corp.) WARD NO.-0022	1465	6810	2242	1402	4466	2034	4776
Katghora tehsil, Korba district, Chhattisgarh								
46	Barkuta	30	157	5	136	102	46	111
47	Sonpuri	203	902	34	211	549	373	529
48	Korba (M Corp.) WARD NO.-0035	1612	6861	656	755	4685	2984	3877
49	Korba (M Corp.) WARD NO.-0036	1092	4770	375	526	4098	1506	3264
50	Korba (M Corp.) WARD NO.-0037	822	3329	257	463	2940	1007	2322
51	Korba (M Corp.) WARD NO.-0038	1002	4475	262	1013	3331	1307	3168
52	Korba (M Corp.) WARD NO.-0041	914	3706	392	868	3350	1295	2411
53	Korba (M Corp.) WARD NO.-0042	1012	3741	338	436	3300	1304	2437
54	Korba (M Corp.) WARD NO.-0044	2046	9056	1471	1022	5911	3018	6038
55	Korba (M Corp.) WARD NO.-0045	1780	7846	595	828	5025	2659	5187
56	Korba (M Corp.) WARD NO.-0047	1922	8694	989	842	6651	2655	6039
<b>Sub Total</b>		<b>33740</b>	<b>149260</b>	<b>17325</b>	<b>20315</b>	<b>106845</b>	<b>50464</b>	<b>98796</b>
<b>7-10 km Korba tehsil, Korba district, Chhattisgarh</b>								
57	Aurakachhar	145	493	11	241	282	279	214
58	Chuiya	255	889	50	539	500	332	557
59	Tapra	33	131	2	124	71	49	82
60	Parsakhola	66	221	4	193	121	117	104
61	Godhi	579	2499	1052	651	1502	970	1529
62	Kurudih	272	1256	80	424	800	555	701
63	Pandripani	369	1475	92	721	884	544	931
64	Kudri	169	654	100	401	408	282	372
65	Bendarkona	424	1757	713	375	1034	681	1076
66	Godma	126	524	24	457	282	362	162
67	Bundeli	455	1970	230	1066	1015	1018	952
68	Dhengurdih	157	689	20	639	337	272	417
69	Rajgamar (CT)	2315	11544	2393	2218	8261	3644	7900
70	Korba (M Corp.) WARD NO.-0006	2238	9619	1302	1778	6010	3784	5835
Katghora tehsil, Korba district, Chhattisgarh								
71	Madwamahuwa	95	335	10	158	221	103	232
72	Nawagaon Kalan	202	750	13	281	439	267	483
73	Jhabu	24	93	0	41	40	26	67
74	Khodri	117	562	10	314	358	140	422
75	Khairbhavna	179	726	0	526	459	458	268
76	Churrail	109	521	15	383	342	158	363
77	Risdi	159	802	84	446	531	320	482
78	Padhnia	241	952	69	377	581	413	539
79	Pali	196	973	138	8	645	354	619
80	Amgaon	82	375	30	252	246	168	207
81	Kanberi	210	831	313	377	503	501	330
82	Ghanadabri	99	371	0	185	250	192	179
83	Japeli	327	1141	509	231	716	723	418
84	Bata	148	573	345	172	394	342	231
85	Korba (M Corp.) WARD NO.-0039	1815	8176	1018	2434	5476	2956	5220
86	Korba (M Corp.) WARD NO.-0040	1563	7213	904	1494	4785	2677	4536
87	Korba (M Corp.) WARD NO.-0046	1486	7082	945	1770	5085	1979	5103
<b>Sub Total</b>		<b>14655</b>	<b>65197</b>	<b>10476</b>	<b>19564</b>	<b>42578</b>	<b>24666</b>	<b>40531</b>
<b>Grand Total</b>		<b>80,731</b>	<b>3,53,464</b>	<b>45,877</b>	<b>57,840</b>	<b>2,51,958</b>	<b>1,21,040</b>	<b>2,32,424</b>

Source: Census of India 2011

• **Sources of Data Collection**

In any empirical research study, it may not be possible to bring all the needed information together with the help of either primary or secondary information itself. Hence, the study agency has inculcated both the primary as well as the secondary sources for the preparation of final research report. But, the study was predominated in terms of empirical in its nature and the primary source has been



***Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh***

largely materialized throughout the research and the secondary information has also been used according to the need and relevance of the study. The tools which are used for the collection of primary information were participatory observation methods, Focus Group Discussion (FGD) and the field experiences of the investigators. In secondary data different sources such as e-sources, census data, district gazetteers and other text books were used for preparation of the report.

- **Ground Truth Collection**

The available secondary data, census of India 2011 land use and demography published data was available from April 2014. As a part in primary survey detailed field observations and investigations were carried out and the differences from secondary data to present conditions of villages of study area is verified for ground truth collection. Both topo-sheets and satellite imagery were taken for field verification and a transverse plan using existing road network was made to cover as many representative sample areas as possible to observe the broad land use features and to adjust the sample areas according to field conditions. As per village administrative atlas Chhattisgarh 2011 census, the villages more than 50% covered 9 to 10 km of the study area the total village land was considered in secondary data, the water bodies' stream/river/tank/reservoir lands were not counted in secondary data land use classification. So there is difference in primary and secondary land use data. The village wise land use classification is very useful to conduct CSR activities in the project study area. Detailed field observations and investigations were carried out and noted the land use features on the study area. The village wise revenue data was verified with village revenue officers (VROs).



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

### 3.0 ANALYSIS AND INTERPRETATION OF DATA

#### Land Use Studies

Studies on land use aspects of eco-system play important roles for identifying sensitive issues, if any, and taking appropriate actions for maintaining the ecological balance in the development of the region.

#### Objectives

- To determine the present land use pattern;
- To analyze the impacts on land use due to plant activities in the study area; and
- To give recommendations for optimizing the future land use pattern vis-a-vis growth of plant activities in the study area and its associated impacts.

#### Methodology

For the study of land use, literature review of various secondary sources such as district census handbooks, regional maps regarding topography, zoning settlement, industry, forest etc., were taken. The data was collected from various sources like district census handbook, revenue records, state and central government offices and Survey of India (SOI) topo-sheets and also through primary field surveys.

#### Land use Based on Secondary Data

Based on the census report, 10 km radial distance around this plant boundary has been considered in the study. These areas were studied in detail to get the idea of land use pattern in the study area. The land use census data of 2011 is presented in **Table-4**. The village wise land use data is presented in **Annexure-2**.

**TABLE-4**  
**LAND USE PATTERN IN THE STUDY AREA**

Sr. No	Particulars of Land use (in Hectares)	0-3 km	3-7 km	7-10 km	0-10 km	(%)
1	Forest Area	385.30	3853.16	2180.58	6419.04	18.26
2	<b>Land under cultivation</b>					
a)	Area Irrigated by Source	2.45	62.52	176.32	241.29	0.69
b)	Total Un-irrigated Land Area	200.05	1065.02	2553.69	3818.76	10.86
c)	Land Under Miscellaneous Tree Crops etc. Area	0.00	0.00	4.19	4.19	0.01
3	<b>Area not available for cultivation</b>					
a)	Area under Non-Agricultural Uses	32.70	191.21	388.89	612.80	1.74
b)	Barren & Un-cultivable Land Area	0.10	21.90	33.07	55.07	0.16
c)	Permanent Pastures and Other Grazing Land Area	67.21	359.25	1215.49	1641.95	4.67
4	Cultivable Waste Land Area	29.80	140.85	446.16	616.81	1.75
5	Fallows Land other than Current Fallows Area	48.56	164.44	642.21	855.21	2.43
6	Current Fallows Area	1.81	57.52	81.28	140.61	0.40
7	Urban Area	6019.32	7788.71	6948.15	20756.18	59.03
	<b>Total Geographical Area</b>	<b>6787.30</b>	<b>13704.58</b>	<b>14670.02</b>	<b>35161.90</b>	<b>100.00</b>

Source: Census of India –2011



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

- **Forest**

The revenue forest land under the study area consists 6419.04 ha (18.26) of the total geographic area.

- **Land under Cultivation**

Altogether 4064.24 ha cultivable land (irrigated, un-irrigated and Land Under miscellaneous tree crops etc.) was observed in the study area. The irrigated land admeasures to about 241.29 ha in the study area which works out to be 0.69% of total study area. The un-irrigated land admeasures about 3818.76 ha and works out to about 10.86% of the total study area. Land under miscellaneous tree crops area admeasures to about 4.19 ha and works out 0.01% of the total study area.

- **Land not available for Cultivation**

The land not available for cultivation is 6.57% of the total study area, which includes area of land with scrub, land without scrub, permanent pastures, quarry, mining area, rocky/ stony and barren area.

- **Fallow Land other than Current Fallow Land**

This includes all land which was taken up for cultivation but is temporarily out of Cultivation for a period of not less than one year and not more than five years. The fallow land is 2.43% in the study area.

- **Current Fallow Land**

This represents cropped area which is kept fallow during the current year. The current fallow land is 0.40% in the total study area.

- **Cultivable Waste**

This land includes that land, which was cultivated sometime back and left vacant during the past 5 years in succession. Such lands may either be fallows or covered with shrubs, which are not put to any use. Lands under thatching grass, bamboo bushes, other grooves useful for fuel etc., and all grazing lands and village common lands are also included in this category. The study area comprises about 1.75% cultivable wastelands.

- **Urban Area**

An urban area is a location characterized by high human population density and vast human-built features in comparison to the areas surrounding it. Urban areas may be cities, towns and towns or conurbations, but the term is not commonly extended to rural settlements such as villages and hamlets. The urban area under the study area consists 20756.18 ha (59.03%) of the total geographic area.



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

## Demography and Socio-Economics

The demographic and socio- economic conditions prevailing in the 10 km radius of the expansion project area of Korba municipal corporation industrial area in Korba tehsil and Katghora tehsil in Korba district of Chhattisgarh” is analyzed. The socio-economic data forms the basis for developing a suitable enterprise social responsibility plan to address the needs of the population.

The project proponent is committed to take up the socio-economic development initiatives not only to minimize the negative impact on the population and also improve the socio-economic status of population living in 10 km radius of the plant as its sustained effort as part of corporate social responsibility.

### Demography

As per the 2001 census the total population of the study area is 3, 33,951. The population reported as per the 2011 census is 3, 53,464. Overall around 5.84% more decennial growth is reported in the study area. The growth rate of population in the study area comparatively reported less than the growth rate of state (Chhattisgarh 22.6%).

### Distribution of Population

As per 2011 census, the study area consisted of 3, 53, 464 persons inhabited in study area. The distribution of population in the study area is shown in **Table-5**. The village wise and urban area population details are given in **Annexure-3**.

**TABLE-5**  
**DISTRIBUTION OF POPULATION**

Particulars	0-3 km	3-7 km	7-10 km	0-10 km
No. of Households	32336	33740	14655	80731
Male Population	72546	77351	33053	182950
Female Population	66461	71909	32144	170514
Total Population	139007	149260	65197	353464
Male Population (0-6 years)	9357	9822	4367	23546
Female Population (0-6 years)	8838	9358	4224	22420
Total Population (0-6 years)	18195	19180	8591	45966
% of 0-6 years population	13.09	12.85	13.18	13.00
Average Household Size	4.30	4.42	4.45	4.38
% of males to the total population	52.19	51.82	50.70	51.76
% of females to the total population	47.81	48.18	49.30	48.24
Sex Ratio (no of females per 1000 males)	916	930	972	932
Density	2048	1092	462	1022

Source: District Census Hand Book –2011



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

### Average Household Size

The study area has a household size of 4.38 as per 2011 census, which has decreased from 4.93 in 2001. This is mainly due to population control measures, health awareness programs.

### Population Density

The density of population reveals that the study area has an overall density of 1022 persons per km<sup>2</sup> (PP km<sup>2</sup>) as per 2011 census reports. As per the census the density of population of state is 189.

The density of population in the study area comparatively reported more than the density of state, this is mainly due to 1 census towns and 48 Korba municipal wards falling in the study area. The proportion of urban and rural population is; urban population 3, 16,247 (89%) rural population 37,217 (11%).

### Sex Ratio

The configuration of male and female indicates that the males constitute to about 51.76% and females to 48.24% of the total population as per 2011 census records. The study area on an average has 932 females per 1000 males as per 2011 census reports. In comparison to the state sex ratio the Chhattisgarh state urban (956) the study area has recorded low sex ratio. The sex ratio in the study area indirectly reveals certain sociological and cultural aspects in relation with female births.

### Social Structure

In the study area, as per 2011 census, 12.98% of the population belongs to Scheduled Castes (SC) and 16.36% to Scheduled Tribes (ST). Overall the data of social stratification reveals that the SC and ST % to population is more than 29%, The SC and ST community are marginalized and they are considered at low level of social strata and calls for a special attention in Social Impact Management Plan for improving their socio-economic status apart from preservation and protection of their art, culture and traditional rights of livelihood.

The distribution of population by social structure is shown in **Table-6**.

**TABLE-6**  
**DISTRIBUTION OF POPULATION BY SOCIAL STRUCTURE**

Particulars	0-3 km	3-7 km	7-10 km	0-10 km
Schedule caste	18076	17325	10476	45877
% To the total population	13.00	11.61	16.07	12.98
Schedule Tribes	17961	20315	19564	57840
% To the total population	12.92	13.61	30.01	16.36
Total SC and ST population	36037	37640	30040	103717
% To total population	25.92	25.22	46.08	29.34
Total population	1,39,007	1,49,260	65,197	3,53,464

Source: District Census Hand Book -2011



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

### Literacy Levels

The data of study area reveals that literacy rate of 81.94% as per 2011 census, which is found to be less than the state rate of literacy (Chhattisgarh 84.0%). The distribution of literate and literacy rate in the study area is given in **Table-7**.

**TABLE-7**  
**DISTRIBUTION OF LITERATE AND LITERACY RATES**

Particulars	0-3 km	3-7 km	7-10 km	0-10 km
Male Population	72546	77351	33053	182950
Female Population	66461	71909	32144	170514
Total Population	1,39,007	1,49,260	65,197	3,53,464
Male Population (0-6 years)	9357	9822	4367	23546
Female Population (0-6 years)	8838	9358	4224	22420
Total Population (0-6 years)	18195	19180	8591	45966
Total Population above 7 years	120812	130080	56606	307498
Male literates (7+ years)	57895	60070	24634	142599
Female literates (7+ Years)	44640	46775	17944	109359
Total literates (7+ Years)	102535	106845	42578	251958
Male literacy rate (%) to the total literates	56.46	56.22	57.86	56.60
Female literacy rate (%) to the total literates	43.54	43.78	42.14	43.40
Average Male Literacy to the total population (%)	47.92	46.18	43.52	46.37
Average female Literacy to the total population (%)	36.95	35.96	31.70	35.56
Total Literacy rate (%) to the total population	84.87	82.14	75.22	81.94

Source: District Census Hand Book -2011

The percentage of male literates to the total literates of the study area works out to be 56.60%. The percentage of female literates to the total literates, which is an important indicator for social change, is observed to be 43.40% in the study area as per 2011 census records.

### Occupational Structure

The occupational structure of residents of work participation rate in the study area is studied with reference to main workers, marginal workers and non-workers. The main workers include 10 categories of workers defined by the Census Department consisting of cultivators, agricultural laborers, those engaged in live-stock, forestry, fishing, mining and quarrying; manufacturing, processing and repairs in household industry; and other than household industry, construction, trade and commerce, transport and communication and other services.



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

The marginal workers are those workers engaged in some work for a period of less than six months during the reference year prior to the census survey. The non-workers include those engaged in unpaid household duties, students, retired persons, dependents, beggars, vagrants etc.; institutional inmates or all other non-workers who do not fall under the above categories.

Total work participation in the project study areas is 34.24% and the non-workers constitute 65.76% of the total population respectively. The distribution of workers by occupation indicates that the non-workers are the predominant population. The main workers to the total workers are 85.30% and the marginal workers constitute to 14.70% to the total workers. The occupational structure of the study area is shown in **Table-8**.

**TABLE-8**  
**OCCUPATIONAL STRUCTURE**

Particulars	0-3 km	3-7 km	7-10 km	0-10 km
Total population	1,39,007	1,49,260	65,197	3,53,464
Total workers	45910	50464	24666	121040
Work participation rate (%)	33.03	33.81	37.83	34.24
Total main workers	41725	45143	16376	103244
% of main workers to total workers	90.88	89.46	66.39	85.30
Marginal workers	4185	5321	8290	17796
% of marginal workers to total workers	9.12	10.54	33.61	14.70
Non-workers	93097	98796	40531	232424
% of non-workers to total population	66.97	66.19	62.17	65.76

Source: District Census Hand Book-2011

**TABLE-8 (A)**  
**OCCUPATIONAL STRUCTURE**

Particulars' of Work Participation	0-3 km	3-7 km	7-10 km	0-10 km	Per centage %
Total workers	45910	50464	24666	121040	100
Main workers Total	41725	45143	16376	103244	100
Main workers Cultivators	726	941	2403	4070	3.94
Main workers Agricultural Laborers	650	1361	3000	5011	4.85
Main workers Household Industry Workers	497	969	524	1990	1.93
Main workers Other Workers	39852	41872	10449	92173	89.28
Marginal workers Total	4185	5321	8290	17796	100
Marginal workers Cultivators	186	397	1357	1940	10.90
Marginal workers Agricultural Laborers	587	1431	4881	6899	38.77
Marginal workers Household Industry Workers	118	187	276	581	3.26
Marginal workers Other Workers	3294	3306	1776	8376	47.07
Marginal workers Other Workers 3 - 6 months Total	3318	4126	7001	14445	100
Marginal workers Cultivators 3 - 6 months	183	356	1214	1753	12.14
Marginal workers Agricultural Laborers 3 - 6 months	528	1187	4091	5806	40.19
Marginal workers Household Industry Workers 3 -	101	156	259	516	3.57



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

Particulars' of Work Participation	0-3 km	3-7 km	7-10 km	0-10 km	Per centage %
6 months					
Marginal workers Other Workers 3 to 6 months	2506	2427	1437	6370	44.10
Marginal workers Other Workers 0-3 months Total	867	1195	1289	3351	100
Marginal workers Cultivators 0-3 months	3	41	143	187	5.58
Marginal workers Agricultural Laborers 0-3 months	59	244	790	1093	32.62
Marginal workers Household Industry Workers 0-3 months	17	31	17	65	1.94
Marginal workers Other Workers 0-3 months	788	879	339	2006	59.86

**Main Workers:** As per Census of India, all persons engaged in 'work' defined as participation in any economically productive activity with or without compensation, wages or profit are workers. Those workers who had worked for the major part of the reference period (i.e. 6 months or more) are termed as main workers.

**Marginal Workers:** Marginal workers were those who worked any time at all in the year preceding the enumeration but did not work for a major part of the year, i.e., those who worked for less than 183 days (or six months).

**Cultivators:** A person is classified as cultivator if he or she is engaged in cultivation of land owned or held from Government or held from private persons or institutions for payment in money, kind or share. Cultivation includes effective supervision or direction in cultivation. A person who has given out her/his land to another person or persons or institution(s) for cultivation for money, kind or share of crop and who does not even supervise or direct cultivation of land, is not treated as cultivator. Similarly, a person working on another person's land for wages in cash or kind or a combination of both (agricultural laborer) is not treated as cultivator. Cultivation involves ploughing, sowing, harvesting and production of cereals and millet crops such as wheat, paddy, jowar, bajra, ragi, etc., and other crops such as sugarcane, tobacco, ground-nuts, tapioca, etc., and pulses, raw jute and kindred fibre crop, cotton, cinchona and other medicinal plants, fruit growing, vegetable growing or keeping orchards or groves, etc. Cultivation does not include the following plantation crops - tea, coffee, rubber, coconut and betel-nuts (areca).

**Agricultural Laborers:** A person who works on another person's land for wages in money or kind or share is regarded as an agricultural labourer. She or he has no risk in the cultivation, but merely works on another person's land for wages. An agricultural labourer has no right of lease or contract on land on which she/he works.

**Household Industry Workers:** Household industry is defined as an industry conducted by one or more members of the household at home or within the village in rural areas and only within the precincts of the house where the household lives in urban areas. The larger proportion of workers in the household industry consists of members of the household. The industry is not run on the scale of a registered factory which would qualify or has to be registered under the Indian Factories Act. The main criterion of a household industry even in urban



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

areas is the participation of one or more members of a household. Even if the industry is not actually located at home in rural areas there is a greater possibility of the members of the household participating even if it is located anywhere within the village limits. In the urban areas, where organized industry takes greater prominence, the household industry is confined to the precincts of the house where the participants live. In urban areas, even if the members of the household run an industry by themselves but at a place away from the precincts of their home, it is not considered as a Household Industry. It should be located within the precincts of the house where the members live in the case of urban areas. Household industry relates to production, processing, servicing, repairing or making and selling (but not merely selling) of goods. It does not include professions such as a pleader, doctor, musician, dancer, waterman, astrologer, dhobi, barber, etc., or merely trade or business, even if such professions trade or services are run at home by members of the household. Some of the typical industries that can be conducted on a household industry basis are: foodstuffs: such as production of floor, fisher folk, milking or dehusking of paddy, grinding of herbs, production of pickles, preservation of meat etc. Beverages: such as manufacture of country liquor, ice cream, soda water etc., Tobacco Products : such as bidi, cigars, textile cotton, jute, wool or silk, manufacture of wood and wood products, paper and paper products, leather and leather products, petroleum and coal products : such as making foot wear from torn tyres and other rubber footwear, chemical and chemical products :such as manufacture of toys, paints, colors, matches, fireworks, perfumes, ink etc., service and repairing of transport equipments : such as cycle, rickshaw, boat or animal driven carts etc.

**Other Workers:** The type of workers that come under this category of 'OW' include all **government servants, municipal employees, teachers, factory workers, mining, plantation workers, those engaged in trade, commerce, business, transport, banking, construction, political or social work, priests, entertainment artists, etc.** In effect, all those workers other than cultivators or agricultural laborers or household industry workers are other workers.

The study area main workers classification is 4.85 % of agricultural laborers, 89.28% of other workers, 3.94% of cultivators and 0.64% of household industry workers. The other workers is predominant population and agricultural laborers are second dominant population. It was observed in primary survey 89.28% of other workers are mostly employed in study area factories as a factory workers, mining, and plantation workers, those engaged in trade, commerce, business, construction and transport.

The study area marginal workers classification is 38.77% of agricultural laborers, 47.07% of other workers, 10.90% of cultivators and 3.26% of household industry workers. The other workers are predominant population and agricultural laborer are second dominant population. It was observed in primary survey 47.07% of other workers are mostly employed in study area factories as a factory workers, mining, and construction and plantation workers, those engaged in trade, commerce, business and transport.



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

### Amenities in the Rural Study Area

The infrastructure and amenities of expansion project area at Korba municipal corporation industrial area in Korba tehsil and Kithara tehsil in Korba district of Chhattisgarh is analyzed. In any empirical research study it may not be possible to bring all the needed information together with the help either primary or secondary information itself. Hence, the study agency has inculcated both the primary as well as the secondary sources for the preparation of final research report. But, the study was predominated in terms of empirical in its nature and the primary source has been largely materialized throughout the research and the secondary information has also used according to the need and relevance of the study. The tools which are used for the collection of primary information were participatory observation methods, Focus Group Discussion (FGD) and the field experiences of the social scientist. In secondary data different sources such as e-sources, RDPR reports, census data, district gazetteers and other text books were used for preparation of the report. 39 villages, 47 Korba municipal corporation wards are considered for data analysis and assessment within the study area. It is observed that infrastructure facilities are poor in the project rural study area, which consists of educational, health care, drinking water facilities, communications, and drainage, etc.

### Educational Facilities in Rural Villages

The educational facilities are found to be poor in the study area. There are 50 Government primary schools, 18 Government Middle Schools, 02 Government secondary schools, one Government senior secondary school is located in Bodhi village in Korba tehsil and another one is located in Pashmina village in Khatghora tehsil. 01 Government senior secondary school is located in Godhi village in Korba tehsil. There is no Government arts and science degree colleges, Government and private polytechnic colleges, Government and private engineering colleges, Government and private vocational training schools/ ITI, Government and private non formal training centers, Government and private schools for disabled on the study area. The available village wise educational facilities in the area are given in **Table-9** and **Annexure-4**.

**TABLE-9**  
**EDUCATIONAL FACILITIES IN THE RURAL STUDY AREA**

Sr. No	Name of the Institution	0-3 km	3-7 km	7-10 km	0-10 km
1	Govt Primary School (Numbers)	2	17	31	50
2	Private Primary School (Numbers)	0	0	0	0
3	Govt Middle School (Numbers)	1	5	12	18
4	Private Middle School (Numbers)	0	0	0	0
5	Govt Secondary School (Numbers)	0	0	2	2
6	Private Secondary School (Numbers)	0	0	0	0
7	Govt Senior Secondary School (Numbers)	0	0	1	1
8	Private Senior Secondary School (Numbers)	0	0	0	0
9	Govt Arts and Science Degree College (Numbers)	0	0	0	0
10	Private Arts and Science Degree College (Numbers)	0	0	0	0
11	Govt Engineering College (Numbers)	0	0	0	0



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

Sr. No	Name of the Institution	0-3 km	3-7 km	7-10 km	0-10 km
12	Private Engineering College (Numbers)	0	0	0	0
13	Govt Medicine College (Numbers)	0	0	0	0
14	Private Medicine College (Numbers)	0	0	0	0
15	Govt Management Institute (Numbers)	0	0	0	0
16	Private Management Institute (Numbers)	0	0	0	0
17	Govt Polytechnic (Numbers)	0	0	0	0
18	Private Polytechnic (Numbers)	0	0	0	0
19	Govt Vocational Training School/ITI (Numbers)	0	0	0	0
20	Private Vocational Training School/ITI (Numbers)	0	0	0	0
21	Government Non Formal Training Centre (Numbers)	0	0	0	0
22	Private Non Formal Training Centre (Numbers)	0	0	0	0
23	Government School For Disabled (Numbers)	0	0	0	0
24	Private School For Disabled (Numbers)	0	0	0	0
25	Government Others (Numbers)	0	0	0	0
26	Private Others (Numbers)	0	0	0	0

Source: Census of India 2011

### Health Facilities in the Rural Study Area

The national norm for population coverage per sub-center is 3000 for tribal areas and 5,000 for plain areas. Similarly, it is recommended to have a Primary Health Centre (PHCs) for population of 20,000 to 30,000 and CHC (community Health Center) for population in the range 80,000 to 1, 20,000. The number of PHCs served by a CHC is yet another indicator by which the physical accessibility can be judged. As per national norms, 1 PHCs should be served by one CHC.

The rural health facilities are very poor in the study area. The type of health facilities available in the study area include, 01 maternity and child welfare centre with 01 doctor in Bundeli village of Korba tehsil, 9 primary health centers without doctors, 1 dispensary with one doctor in Godhi village of Korba tehsil, community health centers, primary health centers, primary health sub centers, TB clinics, allopathic hospitals, veterinary hospitals, family health centers are nil in the rural study area as per the census 2011. It was observed in primary survey, under the CSR activities by Balco the rural health post at Chuiya 8 km from Balco plant in Korba has provided primary medical services and is well equipped with a computerized laboratory to generate medical reliable pathological reports. The center has been the main stay for medical needs of more than 10000 people in the region from many years.

**TABLE-10**  
**HEALTH FACILITIES IN THE RURAL STUDY AREA**

Sr. No	Institution	0-3 km	3-7 km	7-10 km	0-10 km
1	Community Health Centre (Numbers)	0	0	0	0
2	Community Health Centre Doctors Total Strength (Numbers)	0	0	0	0
3	Primary Health Centre (Numbers)	0	0	0	0
4	Primary Health Sub Centre (Numbers)	0	3	6	9



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

Sr. No	Institution	0-3 km	3-7 km	7-10 km	0-10 km
5	Primary Health Sub Centre Doctors Total Strength (Numbers)	0	0	0	0
6	Maternity And Child Welfare Centre (Numbers)	0	0	1	1
7	Maternity And Child Welfare Centre Doctors Total Strength (Numbers)	0	0	1	1
8	TB Clinic (Numbers)	0	0	0	0
9	TB Clinic Doctors Total Strength (Numbers)	0	0	0	0
10	Hospital Allopathic (Numbers)	0	0	0	0
11	Hospital Allopathic Doctors Total Strength (Numbers)	0	0	0	0
12	Hospital Alternative Medicine (Numbers)	0	0	0	0
13	Hospital Alternative Medicine Doctors Total Strength (Numbers)	0	0	0	0
14	Dispensary (Numbers)	0	0	1	1
15	Dispensary Doctors Total Strength (Numbers)	0	0	1	1
16	Veterinary Hospital (Numbers)	0	0	0	0
17	Veterinary Hospital Doctors Total Strength (Numbers)	0	0	0	0
18	Mobile Health Clinic (Numbers)	0	0	1	1
19	Mobile Health Clinic Doctors Total Strength (Numbers)	0	0	1	1
20	Family Welfare Centre (Numbers)	0	0	0	0
21	Family Welfare Centre Doctors Total Strength (Numbers)	0	0	0	0

Source: Census of India 2011



**FIGURE-23**  
**BALCO GRAMEEN VIKAS KENDRA IN CHUIYA VILLAGE**



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**



**FIGURE-24**  
**INTERVIEW WITH DR. DILIP KUMAR SAHOO IN CHUIYA GRAMEENA**  
**VIKAS KENDRA HOSPITAL**



**FIGURE-25**  
**BALCO HOSPITAL IN BALCO TOWNSHIP**



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

### **Drinking Water Facility in the Rural Villages of the Study Area**

One of the most important factors responsible for the emergence of a settlement is availability of water. Many water sources such as treated, untreated water, wells, hand pumps, tube well, tank etc. are available in rural areas. In the villages under study, the main source of water is hand pumps. The water of the hand-pump is used for drinking and animals, bathing and household purposes. There are more ponds in the study area and are mostly dry except for monsoon months. The water from the ponds is generally used by the villagers for bathing.

It was reported that during the summer season, large number of wells become dry and the major source of water in the villages during lean season are the hand pumps and some deep borings. However, more than half the hand pumps in these villages were not functional and required repair.

39 villages are covered in the total study area; the drinking water facilities are found inadequate in the - rural study area. 03 villages are having tap water from treated source. 07 villages are having untreated source, all villages are having un-covered well source, all villages are having hand pump facilities, 20 villages are having river/canal sources, 10 villages are having tube wells/borehole sources, 01 village (Parsakhola) is having spring source, 38 villages are having tank/pond/lake sources and other sources for drinking water are nil. It was observed that the land and water management project and the Watershed project of BALCO has helped in improving the ground water level and water for irrigation. The list of village wise available water sources in the study area is given in **Table-11** and **Annexure-7**.

**TABLE-11**  
**DRINKING WATER FACILITY AVAILABLE IN NUMBER OF VILLAGES IN THE RURAL STUDY AREA**

<b>Sr. No</b>	<b>Source of Drinking Water Source (Availability of number of villages)</b>	<b>0-3 km</b>	<b>3-7 km</b>	<b>7-10 km</b>	<b>0-10 km</b>
1	Tap Water-Treated	0	3	0	3
2	Tap Water Untreated	2	3	2	7
3	Covered Well	0	0	0	0
4	Uncovered Well	2	11	26	39
5	Hand Pump	2	11	26	39
6	Tube Wells/Borehole	1	1	8	10
7	Spring	0	0	1	1
8	River/Canal	2	7	11	20
9	Tank/Pond/Lake	2	11	25	38
10	Others	0	0	0	0



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**



**FIGURE-26**  
**POND IN RISHDA VILLAGE NEAR BALCO PLANT WITH DOMESTIC WASHINGS**

#### **Drinking Water Facility in the Urban of the Study Area**

47 Korba municipal corporation wards and 01 Rajgamar ward are falling in the total study area; the drinking water facilities are found to be inadequate in the urban study area. 42% of wards are having tap water from treated source. 7.66% of wards are having untreated source, 2.37% of wards are having covered well source, 14.73% of wards are having un-covered well source, 22.33 % of wards are having hand pump facilities, 8.58% of wards are having tube wells/borehole source, 0.04% of wards are having spring source, 0.59% of wards are having river/canal sources, and 0.59% of wards are having other sources. It was observed in the primary survey by discussion with Executive Engineer Mr. R.K Maheswari, Korba Municipal Corporation will provide treated drinking water to all municipal wards by 2019-2020. Already many water tanks are constructed and pipeline works are going on. The list of ward wise available water sources in the study area is given in **Table-12** and **Annexure-8**.

**TABLE-12**  
**AVERAGE DRINKING WATER FACILITIES IN THE URBAN AREA OF THE STUDY AREA**

<b>Sr. No</b>	<b>Average Drinking Water Source in Urban Areas</b>	<b>0-3 km</b>	<b>3-7 km</b>	<b>7-10 km</b>	<b>0-10 km</b>
1	Tap Water-Treated	39.60	49.98	29.48	42.87
2	Tap Water Untreated	8.93	7.05	4.22	7.66
3	Covered Well	3.14	1.59	1.92	2.37
4	Uncovered Well	15.25	11.71	24.38	14.73
5	Hand Pump	22.68	19.92	30.36	22.33
6	Tube Wells/Borehole	8.91	8.71	6.55	8.58
7	Spring	0.02	0.03	0.14	0.04
8	River/Canal	0.20	0.48	2.80	0.59
9	Tank/Pond/Lake	0.47	0.02	0.06	0.24
10	Others	0.80	0.49	0.08	0.59
	<b>Average Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**



**FIGURE-27**  
**INTERVIEW WITH KORBA MUNICIPAL CORPORATION EXECUTIVE ENGINEER MR.R.K.MAHESWARI ABOUT DRINKING WATER FACILITIES IN KORBA MUNICIPAL CORPORATION.**



**FIGURE-28**  
**NEWLY CONSTRUCTED WATER TANK IN WARD NUMBER 40**



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

### Communication and Transport Facilities

Transport is an important part of India's economy but it is poor in comparison with international standards. Since the economic liberalization of the 1990s, infrastructure development has progressed rapidly; today there is a variety of modes of transport by land, water and air. However, India's relatively low GDP per capita has meant that access to transport has not been uniform. Public transport remains the primary mode of transport for most of the livelihood in India. Buses take up over 90% of public transport in Indian cities and serve as a cheap and convenient mode of transport for all classes of society. Services are mostly run by state government owned transport corporations. Taxis can either be hailed or hired from taxi-stands. Indian Railways provides an important mode of transport in India, transporting over 18 million passengers and more than 2 million tonnes of freight daily across one of the largest and busiest rail networks in the world.

In the study area 39 rural villages, 02 villages are having post office services, 02 villages are having sub post office services, 02 villages are having Public Call Office /Mobile (PCO), and all villages are having mobile phone network coverage. 14 villages are having private bus facilities services and there is no Government bus facilities, private auto / modified auto, taxis, vans, private courier and, post.

It was noticed in primary survey that, poor transport facilities is the main reason for less literacy and school dropouts. Many male students are using cycles to go to their schools and colleges but female students not using cycles because very far distance of schools and colleges. The list of village wise communication infrastructure details in study area is given in **Table-13** and **Annexure-9**.

**TABLE-13**  
**COMMUNICATION INFRASTRUCTURE ON THE RURAL STUDY AREA**

Sr. No	Communication and Infrastructure (Availability in number of villages)	0-3 km	3-7 km	7-10 km	0-10 km
1	Post Office	0	0	2	2
2	Sub Post Office	0	0	2	2
3	Post And Telegraph Office	0	0	0	0
4	Public Call Office /Mobile (PCO)	0	0	2	2
5	Mobile Phone Coverage	2	8	29	39
6	Internet Cafes / Common Service Centre (CSC)	0	0	0	0
7	Private Courier Facility	0	0	0	0
8	Public Bus Service	0	0	0	0
9	Private Bus Service	1	2	11	14
10	Railway Station	0	0	0	0
11	Auto/Modified Autos	0	0	0	0
12	Taxi	0	0	0	0
13	Vans	0	0	0	0

Source: Census of India 2011



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

### Drainage System in the Rural Study Area

Removing storm water and household wastewater (sometimes called "sullage") is an important environmental health intervention for reducing disease. Poorly drained storm water forms stagnant pools that provide breeding sites for disease vectors. Because of this, some diseases are more common in the wet season than the dry season. Household wastewater may also contain pathogens that can pollute groundwater sources, increasing the risk of diseases such as lymphatic filariasis. Poor drainage can lead to flooding, resulting in property loss, and people may even be forced to move to escape floodwaters. Flooding may also damage water supply infrastructure and contaminate domestic water sources.

Individual Health and hygiene is largely dependent on adequate availability of drinking water and proper sanitation. There is, therefore, a direct relationship between water, sanitation and health. Consumption of unsafe drinking water, improper disposal of human excreta, improper environmental sanitation and lack of personal and food hygiene have been major causes of many diseases in developing countries. India is no exception to this. Prevailing High Infant Mortality Rate is also largely attributed to poor sanitation. It was in this context that the Central Rural Sanitation Programme (CRSP) was launched in 1986 primarily with the objective of improving the quality of life of the rural people and also to provide privacy and dignity to women. As per primary survey ground trothing with secondary data 08 villages are having open drainage facilities, 31 villages are having no drainage facilities, all villages are not having closed drainage facilities, in the study area, 06 villages are covered in Total Sanitation Campaign (TSC). The available Drainage facilities in the study area is given in **Table-14** and **Annexure-10**.

**TABLE-14**  
**DRAINAGE FACILITATES IN THE RURAL STUDY AREA**

Sr. No	Available Drainage Facilities in the Rural Study Area	0-3 km	3-7 km	7-10 km	0-10 km
1	Closed Drainage	0	0	0	0
2	Open Drainage	2	3	3	8
3	No Drainage	0	8	23	31
4	Is the Area Covered under Total Sanitation Campaign (TSC)?	0	1	5	6

Source: Census of India 2011

### Drainage System in the Urban Study Area

As per primary survey ground trothing with secondary data 42.07% of wards are having open drainage facilities, 34.80% of wards are no drainage facilities, 23.13% of wards are not having closed drainage facilities. The available drainage facilities in the study area are presented in **Table-15** and **Annexure-11**.



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

**TABLE-15**  
**AVAILABLE DRAINAGE FACILITATES IN THE URBAN STUDY AREA**

Sr. No	Urban Area Waste water outlet connected to	0-3 km	3-7 km	7-10 km	0-10 km
1	Closed Drainage	25.75	25.36	2.18	23.13
2	Open Drainage	37.95	46.90	41.72	42.07
3	No Drainage	36.3	27.74	56.1	34.80

### **Banking Services and SHG (Self-help group)**

ATMs (An automated teller machine): ATM Network in rural areas accounted for only 10.1 percent of total ATMs in the country as on March 31, 2013. Banks should enhance their ATM network in rural and un-banked areas to serve poor villagers. While doing so, adequate care should be taken regarding safety/security issues, which have come to the front in recent times.

Government of India lays special emphasis on financial inclusion of citizens as it is crucial to poverty reduction. Exclusion of a large number of people from any access to financial services prevents the growth of our country. A scheme to empower citizens financially was highly needed so that everyone can reap the benefits of growth and development.

Pradhan Mantri Jan Dhan Yojana (PMJDY), the biggest financial inclusion initiative in the world, was announced by the Hon'ble Prime Minister Shri Narendra Modi on 15<sup>th</sup> August 2014 from the ramparts of the Red Fort and launched by him on 28<sup>th</sup> August 2014 across the country. While launching the Yojana, the Prime Minister had described the occasion as a festival to celebrate the liberation of the poor from a vicious cycle.

For opening any saving bank account, If Aadhaar Card/Aadhaar Number is available then no other documents are required. If address has changed, then a self-certification of current address is sufficient. If Aadhaar Card is not available, then any one of the following Officially Valid Documents (OVD) is required: Voter ID Card, Driving License, PAN Card, Passport and National Rural Employment Guarantee Act (NREGA) Card. If these documents also contain your address, it can serve both as "Proof of Identity" and Address.

The rural study area total households are 9027 with population of 37217 from 39 villages, it was noticed in primary survey all household have opened Pradhan Mantri Jan Dhan Yojana (PMJDY) accounts but there are no ATMs available in all 39 villages. Transport facilities are very poor in the study area, people have to go Korba or Rajgamar towns to deposit or withdraw the amount and many villages do not have post offices to collect cheque books. 01 cooperative bank is available in Kanberi village. 02 agricultural credit societies and 04 agricultural marketing society are available. (SHG) Self-help group is a small voluntary association of poor people, preferably from the same socio-economic background. They come together for the purpose of solving their common problems through self-help and mutual help. The SHG promotes small savings among its members. The savings are kept with a bank. It was observed in primary survey 10 members are formed as one group. 35 villages are forming SHGs in the study area.



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

All villages are having Anganwadi Centers. BALCO has partnered with the district administration in the implementation of the mid-day meal at Korba and has been successfully running the project for the last 3 years. The project has now been scaled up in Mainpat where over 117 schools get hot food every day.

The current initiative covers more than 400 schools in the district of Korba and Mainpat. The project creates a central facility equipped with mechanized equipment which in a controlled environment can create delicious and nutrition rich diet. The food once prepared from the kitchen is dispatched through vans to more than 400 schools around Korba and Mainpat in proper utensils. Care is taken to ensure that the food delivered is of the same standard as one would expect it to be. The project is always under public scrutiny and the risks of failure are high. The project has thus a robust mechanism of reporting wherein every delivery is recorded and proper handover is done to school teacher, which is confirmed centrally to ensure that the food has reached safely and is un-spoilt. Another aspect is feedback from community representatives such as parshad and school teachers/principal to ensure that any deviation in quality is recorded and sorted out. The Menu is decided by local administration and is also regularly monitored by the collector of the district.

BALCO in partnership with Vedanta Foundation runs 10 child care centers across Korba. These preschool centers are targeted towards places where the existing network of Anganwadi centres are either not present or inaccessible. The centers are focused also towards providing day care facilities for our contract laborers who live around our plant locations. The centre starts in the morning and operates till noon where children learn rhymes, alphabet, stories etc. the trainers are also trained about nutrition, child health as well as methodologies to improve pedagogy.

A number of events are organized at child care centers including parent's teacher meetings, monthly health camps.

The center has helped children move to good schools in the area and has helped them build confidence in taking admission in English medium schools.

The village wise available self-help group, anganwadi centers and banking facilities in the study area are given in **Table-16** and **Annexure-12**.

**TABLE-16**  
**VILLAGE WISE AVAILABLE SHGs & BANKING FACILITIES IN THE STUDY AREA**

Sr. No	Available SGHs & Banking Facilities in the Study Area	0-3 km	3-7 km	7-10 km	0-10 km
1	ATM	0	0	0	0
2	Commercial Bank	0	0	0	0
3	Cooperative Bank	0	0	1	1
4	Agricultural Credit Societies	0	1	1	2
5	Self - Help Group (SHG)	2	8	25	35
6	Agricultural Marketing Society	0	1	3	4
7	Nutritional Centers- Anganwadi Centre	2	11	26	39

Source: Census of India 2011



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**



**FIGURE-29**  
**ANGANWADI CENTER IN DONDRO VILLAGE**

### **Agriculture**


Altogether 4064.24 ha cultivable land (irrigated, un-irrigated and Land Under miscellaneous tree crops etc.) was observed in the study area. The irrigated land admeasures to about 241.29 ha in the study area which works out to be 0.69% of total study area. The un-irrigated land admeasures to about 3818.76 ha and works out to about 10.86% of the total study area. Land under miscellaneous tree crops area admeasures to about 4.19 ha and works out 0.01% of the total study area. Its major crop is paddy. Pulse varieties grown include black gram, hirva, maize, tivra.

It was noticed in primary survey that Balco completed watershed project in association with NABARD. The project started in 2008. BALCO and NABARD is sharing 50-50 of project cost. Under Watershed development program structures and mobilization (community and resources) is being done by a NGO named Social revival group of urban rural and tribal's (SROUT), Korba with the help of village watershed committee of village Bhatgaon, Rogbahari, Saraipali and Parsakhola.

There are two stages of implementation of watershed development program, the first is Capacity building phase and second is main phase. But due to some problem issues related to forest and planning, Parsakhola watershed development project had three stage of implementation. First was capacity building phase, second was interim phase and last is main phase.

Parsakhola watershed development project is in ending of their main phase. Balco have made structures and done training programs for water and soil conservation, agriculture activity enhancement, allied activity enhancement, SHG's livelihood etc. Main achievements of the projects:

- Converted 100 acres of waste land into cultivable land;
- Farmers started commercial vegetable cultivation; and

	<b>Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh</b>
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- 30% increase in yield of paddy.

The village wise agricultural commodities and land classification is given in **Table-17**.

**TABLE-17**  
**VILLAGE WISE AGRICULTURAL PRODUCTS IN THE STUDY AREA**

Sr. No	Village Name	Agricultural Commodities (First)	Agricultural Commodities (Second)	Agricultural Commodities (Third)	Area Irrigated by Source in ha	Total Unirrigated Land Area in ha	Permanent Pastures and Other Grazing Land Area in ha	Cultivable Waste Land Area in ha
<b>0-3 km Korba tehsil, Korba district, Chhattisgarh</b>								
1	Jambahar	paddy	black gram	hirva	2	102.86	27.71	10.14
2	Rogbahri	paddy	black gram	hirva	0.45	97.19	39.5	19.66
<b>3-7 km Korba tehsil, Korba district, Chhattisgarh</b>								
3	Sonpuri	paddy	hirwa (pulse)	black gram	3.11	178.1	34.92	38.17
4	Dondro (Part)	paddy	hirwa (pulse)	black gram	1.17	134.93	13.65	58.92
5	Bela	paddy	black gram	hirva	34.78	87.37	3.17	8.97
6	Bhatgaon	paddy	black gram	hirva	0	103.79	7.4	1.2
7	Saraipali	paddy	hirwa (pulse)	black gram	0.39	47.7	2.43	1.76
8	Dumardih	nil	nil	nil	3.1	84.91	1.61	15.3
9	Bhulsidih	nil	nil	nil	5.65	96.55	247.9	14.19
10	Kesala	nil	nil	nil	6	120.41	12.08	2.34
11	Naktikhar	paddy	black gram	niger	8.32	160.09	7.56	0
<b>Katghora tehsil, Korba district, Chhattisgarh</b>								
12	Barkuta	paddy	maize	tivra (pulse)	0	51.17	2	0
13	Sonpuri	paddy	maize	tivra (pulse)	0	0	26.53	0
<b>7-10 km Korba tehsil, Korba district, Chhattisgarh</b>								
14	Aurakachhar	paddy	black gram	tivra (pulse)	0	58.14	1.51	1
15	Chuiya	paddy	black gram	tivra (pulse)	0	152.26	19.34	19.25
16	Tapra	paddy	black gram	hirva	0	43.59	1.84	1.2
17	Parsakhola	paddy	black gram	hirva	1.11	39.56	2.02	3.37
18	Godhi	paddy	black gram	hirva	0	202.73	1.86	75.66
19	Kurudih	paddy	nil	nil	10.95	186.35	11.48	0
20	Pandripani	paddy	black gram	hirva	18.7	127.1	2.37	0
21	Kudri	paddy	black gram	hirva	2.33	116.98	6.95	0
22	Bendarkona	nil	nil	nil	22.84	188.76	42.74	50.58
23	Godma	nil	nil	nil	5.3	81.91	2.42	17.9
24	Bundeli	nil	nil	nil	17.84	216.17	919.08	67.28
25	Dhengurdih	nil	nil	nil	3.78	80.74	3.238	6.181
<b>Katghora tehsil, Korba district, Chhattisgarh</b>								
26	Madwamahuwa	paddy	maize	sesamum	0	0	14	6
27	Nawaqaon Kalan	paddy	maize	sesamum	0.04	0	3	105
28	Jhabu	paddy	maize	hirva	0	0	0	4
29	Khodri	paddy	maize	tivra (pulse)	1.07	82.67	12.3	0
30	Khairbhavna	paddy	maize	tivra (pulse)	1.31	139.17	14.29	4.89
31	Churraill	paddy	maize	tivra (pulse)	0.67	87.58	27.17	0
32	Risdi	paddy	maize	tivra (pulse)	0.6	11.19	17.49	0
33	Padhnia	paddy	tivra (pulse)	black gram	0	202	5.41	3.38
34	Pali	paddy	maize	tivra (pulse)	0	107.63	6.3	0
35	Amgaon	paddy	maize	tivra (pulse)	89.78	89.78	1.33	8.4
36	Kanberi	paddy	tivra (pulse)	oil seed	0	0	73.83	51.49
37	Ghanadabri	paddy	linseed	hirva	0	76.84	4.37	4.36
38	Japeli	paddy	hirwa (pulse)	linseed	0	232.27	7.19	7.01
39	Bata	paddy	maize	tivra (pulse)	0	0	13.96	5.67

Source: Census of India 2011



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

### **Electrification in Rural Area**

The lack of energy access also causes serious adverse effects on the socio-economic condition of rural population. In particular, access to modern energy like electricity will drastically improve the quality of life of those who do not have yet. Street lighting provides a number of benefits such as reductions in on-street accidents and crime, amenity (a feeling of warmth and security), streetscape enhancements, and stimulation of the night-time trade. Some of these benefits are likely to be largely related to the density of population and the level of traffic. Reduces the need for candles and kerosene lamps with their inherent fire safety risks and improves indoor air quality. Improve productivity, through the use of electricity for irrigation, crop processing, and other activities.

The power supply in the study area is considered to be poor because power supply for all uses is not available in the study area. All villages are having power supply for domestic use, 20 villages are having power supply for agriculture use and 09 villages are having power supply for commercial use. Electricity was supplied for domestic, agricultural, commercial and public lighting purposes. It was observed in primary survey, Korba is power capital of Chhattisgarh but the study area rural population is suffering with low voltage of power supply. Especially in children examination time also the government is not supplying domestic power supply with proper voltage. The list of power supply details are given in **Table-18** and **Annexure-13**.

**TABLE-18**  
**AVAILABILITY OF POWER SUPPLY IN THE RURAL STUDY AREA**

Sr. No	Availability of Electricity (Number of Villages)	0-3 km	3-7 km	7-10 km	0-10 km
1	Power Supply For Domestic Use	2	11	26	39
2	Power Supply For Agriculture Use	2	5	13	20
3	Power Supply For Commercial Use	2	4	3	9
4	Power Supply For All Users	2	6	7	15

Source: Census of India 2011

### **Road Connectivity in Rural Study Area**

Development of rural roads brings multiple socio-economic benefits to the rural areas which form a strong base of the National economy and it is a powerful instrument for the socio-economic transformation of the villages. Awareness of these benefits and their evaluation plays an essential role for providing all weather rural roads. The quickly visible of these benefits are increased mobility, increased productivity, saving in cost of transportation of men and material and speedier flow of commodities beside, changes in the life style. Rural roads provide basic inputs for all-round socio-economic development of the rural areas.

- Education Level: The connection of the villages to the road network results in selling up more schools- primary and middle level and increases the educational standard of the inhabitants of rural community.
- Health Care: Development of rural roads to connect the villages with the highway and nearby towns provides facilities to establish more health centers



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

and dispensaries where the staff can function more effectively and attend to more number of persons by increasing their area of operation.

- Increase in Agriculture: The cultivators in the village will be able to produce more agricultural product by way of generated incentives for marketing their produce at low transportation cost and importing the fertilizer, manures and seeds at cheaper rate due to; the reduced cost of transportation to the village. Thus the productivity of agriculture which is a dominant sector of our economy is increased. All weather road connection also reduces the time of transporting the perishable products like milk, vegetables, poultry products, etc. and ensures a remunerative price for such commodities throughout the year to the producer and a regular supply to the consumers.
- Industrial Benefit: The availability of road links provides opportunity to the entrepreneurs for setting up industrial units particularly the agro-industries which are based on the locally available raw materials. It reduces the cost of transportation of raw materials from the outside and marketing of finished products.
- Cultural Change: The development of roads breaks the cultural barriers among the communities by bringing them together more frequently for interaction, understanding and exchange of ideas, Thus the cultural reservations are broken and acculturation takes place.
- The provision and construction of roads and road links brings multiple socio-economic benefits to the rural areas and results in forming a strong backbone for the agro-based economy. The study area main workers classification is 4.85 % of agricultural laborers, 89.28% of other workers, 3.94% of cultivators and 0.64% of household industry workers. The other workers are predominant population and agricultural laborers are second dominant population. It was observed in primary survey 89.28% of other workers are mostly employed in study area factories as a factory workers, mining, and plantation workers, those engaged in trade, commerce, business, construction and transport.

It was observed in primary survey the rural study area 01 village (Naktikhar village) is having national highway facility, 02 villages (Khodri, Naktikhar villages) are having state highway connectivity, 05 villages are having major district roads connectivity, 16 villages are having other district road connectivity, 28 villages are having black topped pucca roads, 37 villages are having gravel kachha roads, 29 villages are having water bound macadam (The road whose wearing course consists of clean crushed aggregates, mechanically interlocked by rolling and bound together with filler material and water laid on a well compacted base course, is called water bound macadam (W.B.M) road), 33 villages are having All Weather Roads (Basic access is defined as one all-weather road access from each village/ habitation to the nearby Market Centre or Rural Business Hub (RBH) and essential social and economic services).

The study area Road connectivity is given in **Table-19** and **Annexure-14**.



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

**TABLE-19**  
**ROAD CONNECTIVITY IN THE RURAL STUDY AREA**

<b>Sr. No</b>	<b>Available Road Network Facilities in the Study Area</b>	<b>0-3 km</b>	<b>3-7 km</b>	<b>7-10 km</b>	<b>0-10 km</b>
1	National Highway	0	1	0	1
2	State Highway	0	1	1	2
3	Major District Road	0	2	3	5
4	Other District Road	2	6	8	16
5	Black Topped (pucca) Road	1	8	19	28
6	Gravel (kuchha) Roads	2	10	25	37
7	Water Bounded Macadam	2	9	18	29
8	All Weather Road	2	8	23	33
9	Navigable Waterways	0	1	5	6
10	Footpath	0	0	0	0

Source: Primary Survey



***Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh***

#### **4.0 MAJOR FINDINGS AND INFERENCES**

The present study gives sufficient space to include the respondents both from men and women to equalize gender hierarchy with unbiased perception. Since, most of the respondents were married the responses which are given by them are mostly based on their observations and experiences it has been assumed that the maturity level of the responses were of high standard. Although a marginal proportion of the respondents were illiterate a major portion consisted of people who attended at least the primary education, hence the respondents did not face much difficulty in understanding and responding adequately to the questions. Coming to the occupational status of the respondents, most of them were from the category of other workers and this has made them to feel job insecurity which effects on their livelihood. It was also found that, a huge number of the respondents depend on both semi-skilled and unskilled occupations which make their employability level low and results in gaining less income.

The selected area for research is a multicultural area where people of different ethnic groups and religious denominations were present with a majority of the people belonged to Hindu religion which consists of Other Backward Classes (OBC) as dominant groups and a visible proportion of the population belonged to the Scheduled Caste (SC) and Schedule Tribe (ST) and it was felt that, the welfare facilities need to be provided for them under corporate social responsibility (CSR) according to the terms of references. Though, the majority of people in Chhattisgarh predominantly speak in Devanagari (Chhattisgarh) as their mother tongue, but in the selected research area, the people predominantly speak the other languages such as; Hindi and other local languages. The family size is an important variable in planning the CSR activities in any area and the average size of the family in the research area was found as 4-5 members in a family and less than that. The families consisting above six members were of a countable number and very rare.

Selected research area is known for its prosperity in terms of socio- economic and natural resources. Hence, obviously the majority of rural households belong to above poverty level families. As per the occupational status is concerned, the more number of respondents belonged to the unskilled, semi-skilled and casual laborers category and their family income was also revealed as meager and seldom.

As mentioned in the sustainable development goals, providing adequate shelters is one of the major goals, but the study revealed that the majority of the population in the study area was still living in ketch and semi pukka houses and it gives an inference that there will be lot of scope for CSR activities in this aspect. Besides the CSR activities by the Company, it understood that expansion of the Smelter plant shall also generate 1050 people's direct employment further indirect employment to even more people and business opportunities in the area, which shall positively impact the income generation activities for local people.



***Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh***

As the generations move towards modernization, so do their kitchens, which, from firewood have transitioned to LPG. Pradhan Mantra Ujjwala Yojana, a flagship social welfare scheme of Narendra Modi Government to provide free LPG connections to the BPL women in the country is all set to be launched in the state of Chhattisgarh in the first fortnight of August 2017. The scheme was launched by the Prime Minister Narendra Modi on May 1<sup>st</sup> from Ballia in Uttar Pradesh. The scheme preparations were reviewed by the Chief Minister last week during a state cabinet meeting. The state government has so far received 3.55 lakh applications for the Gas connection under the Ujjwala Yojana, out of which 2.46 lakh applications have been verified and LPG connection was distributed for Rs 500 per connection.

In the present study, it was found that the majority of the respondents in the rural study area were in usage of fire wood and coal and they were less depend on LPG. 10% of urban study area households have received Pradhan Mantri Ujjwala Yojana LPG connections.

The state government of Chhattisgarh is all set to launch Mukhyamantri Swasthya Suraksha Yojana in the state. The objective of this scheme is to provide a health smart card to all the citizens of the state. The state government is working towards 100 percent detection of sickle cell anemia at schools and Panchayat level.

As per the official data, out of 2.5 crore total population of the state, around 25 lakh people are being affected with sickle cell anemia. Therefore, the state government is going to provide a health smart card, under Mukhyamantri Swasthya Suraksha Yojana to financially help such people in treatment of the disease. In addition, the government will also organize health checkup camps on regular basis in all the district of the state.

BALCO reaches to over 62 villages through its Health Camps organized every alternate day since the last 4 years. The rural health post at Chuiya 7-8 km from Balco plant in Korba has provided primary medical services and is well equipped with a computerized laboratory to provide reliable medical pathological reports. Health and hygiene is an important area where lot of CSR activities can be carried out. It was found in the present study an overwhelming majority of the population in the study area was much aware about the health and hygiene and built toilets in their houses and very negligible percent of the populations yet to build the toilets in their houses. Balco can further do more under CSR activities to bring more awareness and promote the cleanliness and hygiene through Swach Bharat Abhiyan and Total Sanitation Campaign.

It was found in the study that, only about one third of the population are having good connectivity with good road facility and about half of the population in the study area are having Kutcha road facility which can be altered or repaired by the project proponent under CSR activities. It was also found in the study that, 28 villages only having black topped (pucca) Roads where the project proponent can do many more things.



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**



**FIGURE-30**  
**KATCHA ROAD IN BHATGAON VILLAGE**

It was observed in primary survey, Korba is power capital of Chhattisgarh but the study area rural population is suffering with low voltage of power supply. Especially in children examination time also the government is not supplying domestic power supply with proper voltage. There were some households in the study area who are still dependent on kerosene lamps for the light which is neither eco-friendly nor good for the health. Hence, the project proponent can provide suitable support through CSR activities for illumination of un-connected households by solar lamps etc.

42.87% of wards are having tap water from treated source. 7.66% of wards are having untreated source, 2.37% of wards are having covered well source, 14.73% of wards are having un-covered well source, 22.33 % of wards are having hand pump facilities, 8.58% of wards are having tube wells/borehole source, 0.04% of wards are having spring source, 0.59% of wards are having river/canal sources, and 0.59% of wards are having other sources. It was observed in the primary survey by discussion with Executive Engineer Mr. R.K Maheswari, Korba Municipal Corporation will provide treated drinking water to all municipal wards by 2019-2020. 03 villages are having tap water from treated source. 07 villages are having untreated source, all villages are having un-covered well source, all villages are having hand pump facilities, 20 villages are having River/Canal sources, 10 villages are having tube wells/borehole sources, 01 village (Parsakhola) is having spring source, 38 villages are having tank/pond/lake sources. Majority of the population depend on the hand pumps for the source of water. Hence, the Project Proponent can support the panchayats in the drinking water development activities in the area by reverse osmosis (RO) plants.



***Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh***

Majority of the households come under middle income category, for them meeting the expenses of their children's education is one of the heaviest burdens. The study also reveals that the respondents do not have much awareness on the available scholarships and majority doesn't get such benefits in the education of their villages. Hence, awareness generation and linkages between rural masses and agencies who are providing different scholarship should be increased through CSR activities by Balco.

The holistic development of the children depends on creative and contended childhood. The study revealed that major percentage of children do not participate in sports and cultural activities. But playing games, involvement in sports and cultural activities is an important part in growth and development and a vital activity in shaping child personality. The project proponent can actively involve in promoting inclusive sports and cultural activities through CSR programs.

18 Government middle schools, 02 Government secondary schools, one Government senior secondary school is located in Bodhi village in Korba tehsil and another one is located in Pashmina village in Khatghora tehsil. 01 Government senior secondary school is located in Godhi village in Korba tehsil. There is no Government arts and science degree colleges, Government and private polytechnic colleges, Government and private engineering colleges, Government and private vocational training schools/ ITI, Government and private non formal training centers, Government and private schools for disabled in the rural study area. The component of schooling plays a vital role in building the personality of the children towards constructing a prosperous nation. Therefore providing good amenities in the school is very important.

The state government of Chhattisgarh is providing the scholarship to the meritorious students of the state under Mukhyamantri Gyan Protsahan Yojana. The objective of this scheme is to provide a financial assistance to those students who have got merit in 10<sup>th</sup> and 12<sup>th</sup> class and belongs to SC/ST community.

Under Mukhyamantri Gyan Protsahan Yojana, the state government will provide Rs. 15,000 to each student who has performed well in the 10<sup>th</sup> and 12<sup>th</sup> exam. Moreover, the benefit of the scheme will only be given to students who have passed or studying in any school of state recognized from Chhattisgarh Board of Secondary Education (CGBSE), CBSE and ICSE. Mukhyamantri Gyan Protsahan Yojana is a great initiative of Chhattisgarh government to provide money reward to the students who are interested to continue their studies.

The study found that school dropouts are many after completing primary, middle education because poor transport facilities in the rural study area. Poor children who don't have cycles they are not reaching to upper studies. Therefore a special interest can be showed by providing free cycles to rural village male students and free transport facilities for female students will decrease the school dropout's rate through the CSR activities.

Even after introducing many provisions by the government related to health in different stages such as PHCs, CHCs and district hospitals it is quite interesting to



***Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh***

know that a sizeable respondents still depended on traditional health practices hence, it is advisable that through the CSR activities modern health amenities can be made available to the vast population.

Providing basic amenities to the citizens is the duty of the society and also supplying sufficient nutritious to the children and pregnant women is recommended to extend and enlarge to the maximum number of population. In the research it is identified that a vast number of respondents were not receiving supplementary nutrition from the anganwadi centers. Hence it is suggestible to make separate study to understand the reasons behind not receiving the nutritious food from the stake holders and on the basis of outcomes separate measures can be taken to fulfill the needs.

After making primary health as a major element in the sustainable development goals (SDG) the monitoring body of United Nations Organization (UNO) has advised to every nation to take amicable health measures in enriching the slogan, "Health for all" under this slogan, respective states have taken measures to reach the general population. Hence, there is a huge scope for CSR activities to monitor the health practices with the collaboration of concerned authorities. Since a majority of the respondents have opined that conducting and organizing health camps are beneficial to the people in the vicinity it is suggestible to extend and cover further activities in addition to existing events.

Extending the needed services to the beneficial depends on the level of infrastructure so in the present study as per satisfactory level of amenities it is found that majority of the respondents were satisfied concerned to the following: they are; infrastructure of the hospital, ambulance services, hygiene in and around the hospital, availability of beds, modern treatment equipments and specialized health practitioners and finally satisfaction of treatment processes. Though the respondents were satisfied with health amenities there is a scope for improvement.

The study found that although majority of the households have immunized their children a sizeable percentage refrains from immunization. To have a healthy future of the nation immunization of each and every child is necessary. Therefore due steps need to be taken in consideration while preparing CSR activities.

The study reveals that many of the respondents were in need of skill based trainings as most of the population has transitioned from their earlier occupations to other occupations. It was also observed that a very negligible percent of the sample has received vocational training. It is recommendable to the CSR wing for taking up special skill based trainings to the surrounding population as part of income generation activities.

The research has highlighted the status of alcoholism in the research area. Alcoholism has been tormenting societies from time long-established and has been responsible in devastating families in all spears of life. A major portion of the society has been in the clutches of alcoholism and it already has caused havoc in their families, although there are households from which there are



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

occasional drinkers and non- drinkers but there is utmost probability that they too become slaves of alcoholism. Therefore there is chance to establish de addiction centers in the surroundings and to create awareness regarding substance abuse.

The Central PESA mandates that "While endowing Panchayats in the Scheduled Areas with such powers and authority as may be necessary to enable them to function as institutions of self-government, a State Legislature shall ensure that the Panchayats at the appropriate level and the Gram Sabha are endowed specifically with, among others, the power to enforce prohibition or to regulate or restrict the sale and consumption of any intoxicant.

The Chhattisgarh Excise Act, 1915 defines "Intoxicants" to mean any liquor or intoxicating drug. The Act further explains the words "Liquor" as meaning intoxicating liquor, and includes spirits of wine, spirit, wine, tari, beer, all liquid consisting of or containing alcohol, and any substance which the State Government may, by notification, declare to be liquor for the purposes of this Act. Further "intoxicating drug" means - (i) the leaves, small stalks and flowering or fruiting tops of the Indian hemp plant (*Cannabis sativa*), including all forms known as "Bhang", "sindhi" or "ganja"; (iii) any mixture, with or without neutral materials, of any of the above forms of intoxicating drug, or any drink prepared therefrom; and (iv) any other intoxicating or narcotic substance which the State Government may, by notification, declare to be an intoxicating drug not being narcotic drug as defined in the Narcotic Drugs and Psychotropic Substances Act, 1985.

**Section 61-E Power of Gram Sabha to Regulated and Prohibit Manufacture, Sale etc. of Intoxicants**

(1) The Gram Sabha along with the Panchayat at appropriate level shall have the power to regulate and prohibit manufacture, possession, transport, sale and consumption of intoxicants within its territorial jurisdiction provided that an order of prohibition passed by the Gram Sabha shall not apply to a manufactory engaged in the manufacture of any intoxicant and established prior to coming into force of the provision of this chapter.

(1) No new manufactory for manufacture of any intoxicants shall be established and no new outlets for sale of intoxicants in any area comprised within the territorial jurisdiction of the gram sabha and its respective panchayat at the village, block and district level shall be opened by state government without the consent or permission of the gram sabha.

(2) If a gram sabha prohibits manufacture, possession, sale and consumption of any intoxicants in its area, the following consequences shall follow:

(a) No new manufacturing of intoxicants shall be established within the jurisdiction of the gram sabha; and

(b) No new outlets for sale of any intoxicants shall be opened, and the existing outlets, if any, shall be closed with effect from the first day of the next financial year immediately following the issue of order of prohibition Gram Sabha area.



***Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh***

Under the CSR activities The "Drug Treatment Centers-DTC" would be located in civil hospitals / district hospitals/medical colleges and awareness programs should conduct regularly.

Concern of the population to concern the health condition of the livestock, hence the need of veterinary services so in the study it has been revealed that a vast number of population is not having the accessibility of veterinary services. Veterinary hospitals are nil in the rural study area. At this juncture CSR activities can also be enlarged for the vast population in protecting their livestock's to improve their livelihood. Livestock's as the major source for our livelihood it's the prime.

Local people also sustain on the livelihood accrued from the generation of the Non Timber Forest Produce such as Sal seeds, Salaiguggal gum produce, Chironji seeds Mahua seeds, Tendu leaf and Bamboo/ Bamboo rattan species for weaving baskets and brooms, collection of Tussar silk cocoons popularly known as "Kosa silk", is an known industry in entire Korba district.

As revealed in the research report there are a number of Self Help Groups (SHGs) in the project areas and a majority of the members of the households are also the members of the SHGs. Hence suppose the Project Proponent needs to provide and promote any CSR activities can be initiated in these groups and they can become a gateway to the families.

As the data reveals that many of the households were expecting financial assistance for income generation activities, it may not be possible for the project proponent to monitor the financial assistance extended to the individuals hence it is suggestible to the project proponent to collaborate with the SHGs and other local associations to extend financial assistance in income generation activities.

The project proponent can be appreciated on the basis of the CSR activities already done in the past as seen in the field by the research team. Project Proponent should take action in extending to maximum number of the villages and to increase the sizeable number of beneficiaries.

The study reveals that many of the respondents were in need of skill based trainings as most of the population has transitioned from their earlier occupations to other occupations. It was also observed that a very negligible percent of the sample has received vocational training. It is recommendable to the CSR wing for taking up special skill based trainings to the project area population as part of income generation activities. The running programme Linkage with Pradhan Mantri Kaushal Vikas Yojana (PMKVY) is the flagship scheme of the Ministry of Skill Development & Entrepreneurship (MSDE). The objective of this Skill Certification Scheme is to enable a large number of Indian youth to take up industry-relevant skill training that will help them in securing a better livelihood. Individuals with prior learning experience or skills will also be assessed and certified under Recognition of Prior Learning (RPL), approved for another four years (2016-2020) to benefit 10 million youth Allocated Budget Rs. 12,000 Crores.



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

## **5.0 RECOMMENDATIONS AND SUGGESTIONS FOR BALCO TO INTRODUCE CSR ACTIVITIES**

Section 135 of the Companies Act, 2013 ("Act") provides that a company having net worth of rupees five hundred crores or more or turnover of rupees one thousand crores or more or a net profit of rupees five crores or more must constitute a corporate social responsibility committee ("CSR Committee") consisting of three or more directors, one out of whom must be an independent director. The CSR Rules have been notified on 27<sup>th</sup> February 2014 and came into force from 1<sup>st</sup> April 2014. The CSR Committee is required to formulate a corporate social responsibility policy ("CSR Policy").

Additionally, it is required that the CSR Policy adopted by the company must specify that, any surplus arising out of CSR Activities will be re-directed towards CSR Activities and not the business of the company. Further, the board of directors are required to submit a report under Section 134 (3) of the Act, and the relevant portions of the CSR Policy must be disclosed in the said report, also, the relevant portions of the CSR Policy adopted by the company must be disclosed on the company's website.

A significant addition to implementation partners are companies incorporated under Section 8 (erstwhile Section 25) of the Act.

CSR Activities can now be implemented through the company's own established:

- Registered trust;
- Registered society; and
- Company or its subsidiary or holding or associate company under Section 8.

If such a trust, society or company is not established by the company, then it must have an established track record of three years in undertaking similar projects or programs.

Here is a description of what counts and what doesn't, as per the rules:

Activities included in CSR expenditure:

- Expenditure on programs related to CSR activities approved by the board of directors, and on the recommendation of the CSR committee (must be cited in the CSR Policy);
- Expenditure on building capacity of CSR team (up to 5 percent of CSR expenditure), through institutions with an established track record of at least three years; and
- Contribution to corpus.

Activities excluded from CSR Expenditure:

- Political contribution;
- Activities that are solely for benefit of employees and their families; and



***Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh***

- Activities that are in pursuance of business-as-usual / activities undertaken in pursuance of normal course of business of a company.
- Under the broader scheme of miscellaneous CSR initiatives, Balco has worked towards taking care of the environment wherein it operates as well as contributed towards overall rural development.
- Balco promotes and supports the initiatives taken by district collectors and superintendent of Police to adopt districts for their development and growth. As part of the qualitative and quantitative study the research team led by the Principle Investigator visited few selected areas of the sample to understand the ground reality. A reconnaissance survey to the study area was also made and information was gathered from the villagers, agriculturists, traders, and Panchayat officials with the help of FGD and observations. The qualitative information collected was analyzed and has been presented in this report. For the proposed expansion of the smelter plant both skilled and semi-skilled employment shall be generated. This employment potential created by the proposed expansion project shall improve the socio economic life of the region and contributes in increase in the GDP as a whole.
- During construction phase, about 4000-5000 persons on average per day will be required and during the operation phase about 1050 direct employment, about 3000 indirect employment would be generated and additional business opportunities shall be generated. Further, unskilled workforce required for maintenance and other day to day jobs shall be hired from nearby villages by the contractor. Hence, direct or indirect employment generation potential is envisaged. The following suggestions have been recommended to the Project Proponent under the CSR activities on the basis of qualitative as well as quantitative analysis.

**Education:**

1. Renovation of new school buildings in near villages to improve strength, support in improving the basic amenities at the schools like adding classrooms, auditorium or distribution of uniforms, science lab and computer labs;
2. Program for skills improvement of teaching staff in the elementary schools.
3. Increase the co-curricular and extra-curricular activities in the schools to avoid dropouts;
4. Igniting minds of students through exposers to new age technologies and scholarships; and

**Rural Infrastructure Development:**

1. Construction / Repairing of toilet facilities of Schools / Anganwadi / Solar Street Light & other Green Nurturing Programs / Swachch Bharat;
2. Create awareness and establish linkage between Government Departments and Local people so that available schemes of the government on solar lamps and solar pumps can be availed in local area;



***Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh***

3. Support village Panchayats to upgrade existing and introduce new public toilets;
4. Launch scheme for support and development of drinking water in the area and support village Panchayats in installation of RO based drinking water;
5. Promote bio-gas installation in agri or animal husbandry based families households; and
6. Scheme for maintenance of drainage facilities to curb the vector borne diseases and other diseases which spread through unhygienic practices.

**Community Health and Sanitation:**

1. Mobile health care units with doctor, paramedic and technicians;
2. Poor patient assistance programmed and organize medical camps including alcohol de-addiction camps;
3. Provide equipment's for differently abled and disabled in the community such as the disabled, to have an autonomous life;
4. Establish and support blood bank in identified villages in collaboration with health centers for the benefit of general public during an emergency;
5. Generating awareness on issues related to tabooed health practices in the society like personal hygiene and menstrual hygiene for ladies and girls;
6. Scheme for psychiatric health in collaboration with the existing health centers; and
7. Medical insurance scheme for disabled and tribal population;

**Livelihood Development:**

1. Vocational and skill development trainings for the local youth and household women as part of income generation activities;
2. Extend assistance to start SHGs to empower women and material and financial support to take up self-employment;
3. Creation of an endowment fund for tribal population to enhance their quality of life through livelihood generation activities, medical insurance and scholarships for tribal students for primary, secondary and higher education;
4. Special provisions can be introduced for the economic empowerment of vulnerable sections of the population such as the disabled and tribal;

**Community Environment:**

1. Organization of eco-clubs in schools with over 1000 students and teachers as members of the eco club in the area focused on creating awareness among children and harnessing their strength for environment protection activities including waste management and plantation;
2. Scheme for promotion of use of solar lamps and energy efficient equipment by community on the line of Government of India LED lamps distribution. Balco - way to Light mitigating part of the CO<sub>2</sub> emission; and
3. Awareness on rain water conservation and harvesting and implementation of watershed management with scientific methods.



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

### **Monitoring and Evaluation of CSR Activities:**

1. Strengthening the existing CSR wing of the project proponent by increasing and improving the man power;
2. Proper follow-up methods need to be implemented after the completion of every programme;
3. Recognizing NGOs working in various fields and becoming a partner in their work to fulfill their objectives;
4. The company could adopt villages in the vicinity and provide to their needs by the means of a registered NGO of the company. Such NGO should be open to the suggestions of stake holders in the community and provide need based help to the people;
5. Utilize the assistance of Quality council of India accredited social scientists and practitioners to evaluate and monitor the CSR activities; and
6. Conduct regular social audit to know the accountability and transparency level regarding the existing CSR activities.

Several projects undertaken by BALCO have been the result of gaps in the implementation of government projects that have similar goals. The organization has limited budget towards community development and several projects have competing resources. The fact that the budget for community development has an underlying link with profitability poses challenge for development.

Balco has a well-defined CSR policy to carryout social development and welfare activities in the surrounding villages and urban areas. Yearly summary of the budget expenditure for CSR activities are given in **Table-20**

**TABLE-20**  
**CSR ACTIVITIES 2014-2017**

<b>Financial Year</b>	<b>CSR Expenditure</b>
FY 14	510.01
FY 15	341.73
FY 16	369.65
FY 17	256.40

To address the Public Hearing issues, and as per guidelines the project proponent will be undertaking various initiatives towards Enterprise Social Commitment (ESC).

As per the guidelines CSR expenditure shall be considered, CSR expenditure shall be carried during the period spanning from 2018-19 to 2023-24. The activities like infrastructure, education, skill development and health, livelihood, community development and rural development will be covered under CSR.



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

### **ANNEXURE-1**

SOP No.09/28

Issue No.5.0

Page\_ of \_

#### **Section 01: Perception of Household regarding new Project**

1.1 Are you aware that the \_\_\_\_\_ Project is going to be located in this region?

Yes – 1          No – 2

1.2 If yes, when did you come to know (month and Year)

1.3 Do you know when the work will start: yes 1, No -2

1.4 Do you think that it will be beneficial to your household?

Yes – 1 No – 2 cannot say - 3

1.5 If yes, what benefits (social, economic) do you think your household will receive:

1.

2.

1.6 If no, according to you what are consequences (social, economic, cultural and environmental) of the project your household will have to face?

1.

2.

1.7 Do you think that it will be beneficial to your village/area?

Yes – 1 No – 2 cannot say - 3

1.8 If yes, what benefits (social/economic) do you think the project will provide in the village/area

1.

2.

1.9 If the project will not benefit what consequences your village/area will have to face?

1.

2.



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter  
Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil,  
Korba District Chhattisgarh**

1.10 Do you think that you are going to lose assets and sources of your livelihood by the project?

Yes – 1 No – 2 cannot say - 3

1.11 If Yes, what are they?

1.12 What type of compensation do you expect in case you lose your land and other sources of livelihood?

Land for land – 1, Cash for Land – 2, Employment for Land – 3, fishing for fishing – 4, Betelvine for Betelvine 5, Any other (Specify) - 6

1.13 If cash compensation for the loss of assets is given what rate would you like to get?  
Exact market rate - 1 Double -2 Any other specify 3

1.14 If compensation is in cash, what plan do you have to utilize the compensation amount?

1.a Buying of land at (Place): \_\_\_\_\_

1.b How much(guntha): \_\_\_\_\_

2. Saving: \_\_\_\_\_ bank/Post office \_\_\_\_\_

3. Invest in: \_\_\_\_\_

4. Consumption expenses: \_\_\_\_\_

5. Repayment of loan: To whom: \_\_\_\_\_

6. Other (Specify): \_\_\_\_\_

1.15 In case any company acquires your land, what could be the livelihood for your Household?

1. Job in company

1b. if yes, name of family member: \_\_\_\_\_

2. Job in other ancillary units: Yes – 1 No – 2

2b. if yes, name of family member: \_\_\_\_\_

3. Self-employment provisions with infrastructure and support: Yes – 1 No – 2

4. Job in the service sector (Newspaper/milk supply/security/driving etc): Yes – 1 No – 2

5. Employment of skilled and semi-skilled work in the projects: Yes – 1 No – 2

6. Continue with the same occupation: Yes – 1 No – 2

7. Do not know:

8. Any other – Specify:

1.16 In case your land is acquired, what steps do you think the project should take to ensure your family livelihood?

1.17 Do you think that with the project functioning in your area, the employment opportunities in other sector will improve?



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter  
Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil,  
Korba District Chhattisgarh**

1.18 If land is acquired from you, do you have any choice in selecting the place where your household would like to resettle? Yes – 1 No – 2 Cannot say – 3

1.19 If yes, Name of the Place: Distance:

1.20 Reason for selection of that place:

1.

2.

1.21 If no, the reason:

1.

2.

1.22 Given an option would you like \_\_\_\_\_ to operate in your area: Yes-1 no – 2

Reasons, \_\_\_\_\_

1.23 **Household Problems** (enquire about the problems faced by the household in terms of education, health, infrastructure, employment, etc.)

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

SOP No.09/28

Issue No.5.0

Page\_ of \_

### **Section 14: Declaration for Options Relating to Resettlement and Rehabilitation Benefits**

I, \_\_\_\_\_ son/daughter/wife of  
\_\_\_\_\_ of Village \_\_\_\_\_, P.S.  
\_\_\_\_\_ district \_\_\_\_\_

on an

informed knowledge and without coercion from anybody do hereby exercise my option relating to R and R benefits as specified below.

a) Homestead within the Rehabilitation colony:

Cash Assistance for self relocation:

b) House:

House Building Assistance:

c) Land:

Cash Assistance:

d) Job: Name of nominee

Cash Assistance:

e) Training: Name of nominee

f) Pension Scheme:

g) Convertible share preference:

h) Shops or Service Units:

i) Free Transportation:

Cash Assistance:

Signature of Witness

Signature of Declarer

Signature of Any Other Family Member & Phone number



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

SOP No.09/28

Issue No.5.0

Page\_ of \_

## **ANNEXURE-1 (A)**

### **SURVEY FORMAT FOR DATA COLLECTION OF COMMON PROPERTI RESOURCES**

#### **Village-Resource Mapping**

**Name of the Project:**.....

1.1 Name of the state:

1.2 Name of the District:

1.3 Name of the Taluk/Tahsil/Block:

1.4 Name of the Village:

1.5 Name of the Gram Panchayath:

1.6 Date of Preliminary notification for land acquisition/date of declaration of affected area.....

**(Source: Village Revenue Officer)**

#### **2. Area of the village in Hectares.....**

2.1 Total Land in Hectares:

2.2 No. of hectares forest land:

2.3 Agriculture Land:

2.4.Total irrigated area:

2.5. Total un-irrigated area:

2.6.Total Area not available for cultivation:

2.7. TotalGovt.Land:

2.8. TotalPrivateLand:

#### **3. No. of House Holds:**

3.1 Total Population ( Persons) 1.Males :      2. Females:

3.2 SC Population:      1. Males:      2. Females:

3.3 ST Population:      1. Males:      2. Females:



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

SOP No.09/28

Issue No.5.0

Page\_ of \_

#### 4. Availability of Education Facilities:

- 4.1 No. of Pre-Primary Schools/ICDS      1. Private      2. Government
- 4.2 No. of Primary Schools      1. Private      2. Government
- 4.3 No. of Secondary/Middle Schools      1. Private      2. Government
- 4.4 No. of High Schools      1. Private      2. Government
- 4.5 No. of Colleges.....
1. Private      Technical.....Non- Technical.....Industrial training schools...
2. Government      Technical.....Non- Technical.....Industrial training schools...
- 4.6 No. of Colleges available within the range of 5kms to 10kms.
- 4.7 No. of Adult education centers/literacy centers.....

#### 5 Availability of Medical Facilities:

- 5.1 No. of Allopathic Hospitals available within range of below 5 km.....
- A. No. of Private .....      B. No. of Government.....
- 5.1.2 No. of Primary Health Centers.....
- A. No. of Private .....      B. No. of Government.....
- 5.1.3 No. of Area Hospitals.....
- A. No. of Private .....      B. No. of Government.....
- 5.1.4 No. of Dispensaries/Nursing homes.....
- A. No. of Private .....      B. No. of Government.....
- 5.1.5 No. of registered private medical practitioners.....
- 5.2 No. of AYUSH Hospitals available within range of below 5 km
- A. Private      B. Government
- 5.2.1 No. of AYUSH Hospitals available within range of 5 to 10kms
- A. Private      B. Government





**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter  
Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil,  
Korba District Chhattisgarh**

SOP No.09/28

Issue No.5.0

Page\_ of \_

### **13. Availability of Irrigation**

3 Village Tank 2. Canal 3. River 4. Dam

### **14. Other Common property resources and public utilities**

1. Community Pond 2. Cattle grazing land 3. Food storage facilities/go-downs 4. Fair Price shop

### **15. Availability of Common Trees & Plantation**

1. No. of Fruit bearing trees 2. No. of share giving trees 3. No. of trees for fire wood and other purpose 4. No. of trees having exclusive rights to a defined caste group or community and provides livelihood.....

### **16. Availability of Religious Centers:**

- Temples 2. Mask 3. Church 4. Gurudwar 5. Any other traditional tribal or special places of worship mention.....

Write a brief about Cultural importance of Village: (Includes History, customs, traditions and Jajmani system)



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

**ANNEXURE-2  
LAND USE PATTERN IN THE STUDY AREA**

Sr.No	Village Name/ Urban Area	Total Geographical Area	Forest Area	Area Irrigated by Source	Total Unirrigated Land Area	Land Under Miscellaneous Tree Crops etc. Area	Area under Non-Agricultural Uses	Barren & Uncultivable Land Area	Permanent Pastures and Other Grazing Land Area	Culturable Waste Land Area	Fallows Land other than Current Fallows Area	Current Fallows Area
<b>0-3 km Korba tehsil, Korba district, Chhattisgarh</b>												
1	Jambahar	283.82	97.38	2	102.86	0	23.77	0.1	27.71	10.14	18.87	0.99
2	Rogbahri	484.16	287.92	0.45	97.19	0	8.93	0	39.5	19.66	29.69	0.82
3	*Korba Urban Area	5709.56	0	0	0	0	0	0	0	0	0	0
Katghora tehsil, Korba district, Chhattisgarh												
4	*Korba Urban Area	309.76	0	0	0	0	0	0	0	0	0	0
	<b>Sub Total</b>	<b>6787.3</b>	<b>385.3</b>	<b>2.45</b>	<b>200.05</b>	<b>0</b>	<b>32.7</b>	<b>0.1</b>	<b>67.21</b>	<b>29.8</b>	<b>48.56</b>	<b>1.81</b>
<b>3-7 km Korba tehsil, Korba district, Chhattisgarh</b>												
5	Sonpuri	783.43	487.18	3.11	178.1	0	29.14	0.45	34.92	38.17	9.8	2.56
6	Dondro (Part)	997.14	751.22	1.17	134.93	0	14.49	0	13.65	58.92	3.03	19.73
7	Bela	207.39	58.36	34.78	87.37	0	6.37	0	3.17	8.97	6.27	2.1
8	Bhatgaon	807.82	634.57	0	103.79	0	6.08	12.94	7.4	1.2	40.52	1.32
9	Saraipali	101.33	43.71	0.39	47.7	0	1.01	0	2.43	1.76	2.18	2.15
10	Dumardih	180.7	56.05	3.1	84.91	0	1.43	0	1.61	15.3	13.7	4.6
11	Bhulsidih	393.99	0	5.65	96.55	0	8.55	0	247.9	14.19	12.07	9.08
12	Kesala	1841.93	1664.8	6	120.41	0	26.69	0	12.08	2.34	6.85	2.76
13	Naktikhar	308.44	94.69	8.32	160.09	0	4.09	5.18	7.56	0	20.07	8.44
14	*Rajgamar Urban Area	309.88	0	0	0	0	0	0	0	0	0	0
15	*Korba Urban Area	3281.42	0	0	0	0	0	0	0	0	0	0
Katghora tehsil, Korba district, Chhattisgarh												
16	Barkuta	110.42	39.87	0	51.17	0	1.15	1	2	0	15.23	0
17	Sonpuri	183.28	22.71	0	0	0	92.21	2.33	26.53	0	34.72	4.78
18	*Korba Urban Area	4197.41	0	0	0	0	0	0	0	0	0	0
	<b>Sub Total</b>	<b>13704.58</b>	<b>3853.2</b>	<b>62.52</b>	<b>1065</b>	<b>0</b>	<b>191.21</b>	<b>21.9</b>	<b>359.25</b>	<b>140.85</b>	<b>164.44</b>	<b>57.52</b>
<b>7-10 km Korba tehsil, Korba district, Chhattisgarh</b>												
19	Aurakachhar	143.42	74.96	0	58.14	0	1.21	0	1.51	1	1	5.6
20	Chuiya	830.31	586.36	0	152.26	4.19	29.01	0.15	19.34	19.25	16.49	3.26
21	Tapra	88.31	26.96	0	43.59	0	1.75	9.72	1.84	1.2	1.2	2.05
22	Parsakhola	105.91	58.85	1.11	39.56	0	1	0	2.02	3.37	0	0
23	Mohanpur	65.87	37.06	0	22.09	0	1	0	0	3.48	1.24	1
24	Bhulajheriya	8.38	0	0	8.18	0	0.14	0	0	0.06	0	0
25	Godhi	587.88	146.74	0	202.73	0	11.57	0	1.86	75.66	149.32	0
26	Kurudih	488.42	231.18	10.95	186.35	0	15.58	0	11.48	0	29.94	2.94
27	Pandripani	572.45	222.49	18.7	127.1	0	0	6	2.37	0	194.64	1.15
28	Kudri	219.41	81	2.33	116.98	0	2.24	0	6.95	0	8.8	1.11
29	Bendarkona	482.82	143.44	22.84	188.76	0	18.72	0	42.74	50.58	14.65	1.09
30	Godma	168.33	50.58	5.3	81.91	0	1.37	0	2.42	17.9	8.25	0.6
31	Bundeli	1442.23	100.43	17.84	216.17	0	63.58	0.16	919.08	67.28	37.78	19.91
32	Dhengurdih	200.563	95.208	3.78	80.74	0	1.335	0	3.238	6.181	8.607	1.474
33	*Rajgamar Urban Area	1383.13	0	0	0	0	0	0	0	0	0	0
34	*Korba Urban Area	951.42	0	0	0	0	0	0	0	0	0	0
Katghora tehsil, Korba district, Chhattisgarh												
35	Madwamahuwa	123	86	0	0	0	6	1	14	6	4	6
36	Nawagaon Kalan	301.04	89	0.04	0	0	95	3	3	105	4	2
37	Jhabu	139	124	0	0	0	1	0	0	4	6	4
38	Khodri	122.88	13	1.07	82.67	0	1.88	0.93	12.3	0	9.43	1.6
39	Khairbhavna	208.01	0	1.31	139.17	0	5.05	1.05	14.29	4.89	40.15	2.1
40	Churrail	124.39	0	0.67	87.58	0	0.89	0.21	27.17	0	6.47	1.4
41	Risdi	66.33	0	0.6	11.19	0	2.54	1.06	17.49	0	28.22	5.23
42	Padhnia	252.01	0.05	-	202	0	4.65	3.36	5.41	3.38	31.17	1.99
43	Pali	134.7	0	-	107.63	0	0.88	6.35	6.3	0	11.88	1.66
44	Amgaon	197.57	0	89.78	89.78	0	0	0	1.33	8.4	6.51	1.77
45	Kanberi	259.21	13.05	0	0	0	104.02	0.08	73.83	51.49	11.12	5.62
46	Ghanadabri	95.1	0	0	76.84	0	4.53	0	4.37	4.36	2.7	2.3
47	Japeli	259.02	0	0	232.27	0	7.12	0	7.19	7.01	4.04	1.39
48	Bata	35.31	0.22	0	0	0	6.82	0	13.96	5.67	4.6	4.04
49	*Korba Urban Area	4613.60	0	0	0	0	0	0	0	0	0	0
	<b>Sub Total</b>	<b>14670.02</b>	<b>2180.6</b>	<b>176.32</b>	<b>2553.7</b>	<b>4.19</b>	<b>388.89</b>	<b>33.07</b>	<b>1215.5</b>	<b>446.16</b>	<b>642.21</b>	<b>81.284</b>
	<b>Grand Total</b>	<b>35161.90</b>	<b>6419</b>	<b>241.29</b>	<b>3818.8</b>	<b>4.19</b>	<b>612.8</b>	<b>55.07</b>	<b>1641.9</b>	<b>616.81</b>	<b>855.21</b>	<b>140.61</b>
Source: Census of India 2011												
Note: *Korba Urban Area, *Rajgamar Urban Area calculated based on Administrative atlas Chhattisgarh state 2011 book												



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

**ANNEXURE-3  
VILLAGE WISE AND URBAN AREA WISE DEMOGRAPHY DETAILS**

Sr.No.	Name of Village	No.of House Holds	Total Pop	Total M	Total F	Pop Below 6 Age group	Male Below 6 Age group	Female Below 6 Age group	SC Pop	ST Pop	Total Lit	Male Lit	Female Lit	Total Work	Main Work	Marg Work	Non Work
<b>0-3 km Korba tehsil, Korba district, Chhattisgarh</b>																	
1	Jambahar	242	943	478	465	142	80	62	71	681	472	288	184	454	148	306	489
2	Rogbahri	222	906	446	460	132	66	66	43	590	445	259	186	299	217	82	607
3	Korba WD N021	2004	9076	4651	4425	1108	571	537	456	915	7158	3816	3342	2870	2736	134	6206
4	KorbaWD N0023	1046	4746	2554	2192	748	360	388	333	1010	3136	1901	1235	1902	1767	135	2844
5	KorbaWD N0024	1418	6055	3131	2924	830	440	390	684	1908	4464	2472	1992	1992	1884	108	4063
6	Korba WD N0025	1280	5588	2891	2697	736	395	341	1001	851	4145	2325	1820	1836	1656	180	3752
7	Korba WD N0026	649	2942	1559	1383	387	192	195	553	385	2265	1297	968	795	748	47	2147
8	Korba WD N0027	1719	7761	3972	3789	1148	565	583	1843	620	5560	3111	2449	2386	2124	262	5375
9	Korba WD N0028	747	2921	1645	1276	242	121	121	522	300	2551	1509	1042	1123	1059	64	1798
10	Korba WD N0029	770	3145	1679	1466	217	126	91	271	193	2778	1522	1256	1054	1034	20	2091
11	Korba WD N0030	1214	5037	2616	2421	639	328	311	1060	387	3934	2177	1757	1659	1586	73	3378
12	Korba WD N0031	1299	5668	3024	2644	774	388	386	928	515	4038	2334	1704	2017	1928	89	3651
13	Korba WD N0032	1994	8660	4489	4171	1381	712	669	1857	1150	5743	3361	2382	2883	2683	200	5777
14	Korba WD N0033	1742	7575	4012	3563	983	515	468	788	1093	5414	3138	2276	2768	2647	121	4807
15	Korba WD N0034	1396	5715	2949	2766	850	442	408	603	1330	3772	2176	1596	1992	1596	396	3723
16	Korba WD N009	1148	5420	2907	2513	668	346	322	654	175	4187	2393	1794	1778	1741	37	3642
17	Korba WD N0010	1301	5632	2944	2688	750	368	382	739	440	4139	2361	1778	1752	1702	50	3880
18	Korba WD N0011	1969	7826	4117	3709	1160	598	562	1161	746	5385	3155	2230	2497	1769	728	5329
19	Korba WD N0012	1490	6137	3159	2978	842	435	407	506	834	4293	2447	1846	2023	1868	155	4114
20	Korba WD N0013	763	3420	1814	1606	360	190	170	257	467	2787	1555	1232	1027	956	71	2393
21	Korba WD N0014	1273	5452	2862	2590	441	223	218	527	741	4677	2573	2104	1634	1542	92	3818
22	Korba WD N0015	1262	5496	2833	2663	732	390	342	515	256	4064	2252	1812	1717	1521	196	3779
23	Korba WD N0016	1496	6239	3246	2993	872	461	411	627	369	4536	2568	1968	1947	1790	157	4292
24	Korba WD N0018	2270	9710	4960	4750	1186	602	584	1515	506	7592	4079	3513	3132	2879	253	6578
<b>Katghora tehsil, Korba district, Chhattisgarh</b>																	
25	Korba WD N0043	1622	6937	3608	3329	867	443	424	562	1499	5000	2826	2174	2373	2144	229	4564
	<b>Sub Total</b>	<b>32336</b>	<b>139007</b>	<b>72546</b>	<b>66461</b>	<b>18195</b>	<b>9357</b>	<b>8838</b>	<b>18076</b>	<b>17961</b>	<b>102535</b>	<b>57895</b>	<b>44640</b>	<b>45910</b>	<b>41725</b>	<b>4185</b>	<b>93097</b>
<b>3-7 km Korba tehsil, Korba district, Chhattisgarh</b>																	
26	Sonpuri	341	1224	593	631	169	80	89	105	713	676	403	273	568	261	307	656
27	Dondro (Part)	1080	4848	2421	2427	676	306	370	292	1317	3120	1806	1314	1822	1278	544	3026
28	Bela	252	1026	523	503	146	67	79	8	921	511	337	174	400	192	208	626
29	Bhatgaon	248	926	448	478	132	66	66	126	717	516	299	217	243	129	114	683
30	Saraipali	138	523	254	269	80	31	49	12	444	268	159	109	158	8	150	365
31	Dumardih	192	833	419	414	132	69	63	55	645	421	239	182	330	310	20	503



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

Sr.No.	Name of Village	No.of House Holds	Total Pop	Total M	Total F	Pop Below 6 Age group	Male Below 6 Age group	Female Below 6 Age group	SC Pop	ST Pop	Total Lit	Male Lit	Female Lit	Total Work	Main Work	Marg Work	Non Work
32	Bhulsidih	241	930	467	463	160	77	83	142	581	448	278	170	402	191	211	528
33	Kesala	209	776	393	383	119	56	63	15	592	355	209	146	476	413	63	300
34	Naktikhar	391	1660	839	821	249	136	113	48	1253	923	554	369	638	543	95	1022
35	Korba W NO.-0001	1367	6766	3447	3319	845	434	411	413	890	5104	2738	2366	2167	1972	195	4599
36	Korba W NO.-0002	2471	11458	6071	5387	1652	867	785	1263	708	7933	4573	3360	3799	3688	111	7659
37	Korba W NO.-0003	1576	7247	3717	3530	908	480	428	784	118	5487	2993	2494	2378	2253	125	4869
38	Korba W NO.-0004	1318	6439	3350	3089	757	403	354	156	359	4873	2665	2208	2095	1717	378	4344
39	Korba W NO.-0005	1632	6824	3473	3351	1016	516	500	1398	326	4130	2397	1733	2520	2060	460	4304
40	KorbaW NO.-0007	2294	9949	5191	4758	1499	793	706	1027	539	7043	3934	3109	3310	3171	139	6639
41	KorbaW NO.-0008	1503	7151	3651	3500	970	479	491	483	289	4971	2738	2233	2490	2208	282	4661
42	Korba W NO.-0017	2199	9677	5035	4642	1144	623	521	1117	641	7856	4207	3649	3169	3079	90	6508
43	KorbaW NO.-0019	1287	5767	2922	2845	884	444	440	1218	259	3936	2233	1703	1749	1694	55	4018
44	Korba W NO.-0020	1101	4889	2480	2409	553	276	277	1047	501	3866	2084	1782	1562	1542	20	3327
45	KorbaW NO.-0022	1465	6810	3479	3331	928	455	473	2242	1402	4466	2577	1889	2034	1816	218	4776
Katghora tehsil, Korba district, Chhattisgarh																	
46	Barkuta	30	157	80	77	22	15	7	5	136	102	58	44	46	46	0	111
47	Sonpuri	203	902	431	471	136	60	76	34	211	549	318	231	373	264	109	529
48	KorbaW NO.-0035	1612	6861	3996	2865	875	451	424	656	755	4685	3013	1672	2984	2860	124	3877
49	KorbaW NO.-0036	1092	4770	2514	2256	368	204	164	375	526	4098	2251	1847	1506	1438	68	3264
50	KorbaW NO.-0037	822	3329	1755	1574	245	129	116	257	463	2940	1598	1342	1007	984	23	2322
51	KorbaW NO.-0038	1002	4475	2315	2160	475	267	208	262	1013	3331	1838	1493	1307	1074	233	3168
52	KorbaW NO.-0041	914	3706	1935	1771	219	115	104	392	868	3350	1786	1564	1295	1269	26	2411
53	KorbaW NO.-0042	1012	3741	1939	1802	301	141	160	338	436	3300	1744	1556	1304	1269	35	2437
54	KorbaW NO.-0044	2046	9056	4727	4329	1368	669	699	1471	1022	5911	3485	2426	3018	2761	257	6038
55	Korba W NO.-0045	1780	7846	4022	3824	1180	603	577	595	828	5025	2922	2103	2659	2388	271	5187
56	Korba W NO.-0047	1922	8694	4464	4230	972	510	462	989	842	6651	3634	3017	2655	2265	390	6039
<b>Sub Total</b>		<b>33740</b>	<b>149260</b>	<b>77351</b>	<b>71909</b>	<b>19180</b>	<b>9822</b>	<b>9358</b>	<b>17325</b>	<b>20315</b>	<b>106845</b>	<b>60070</b>	<b>46775</b>	<b>50464</b>	<b>45143</b>	<b>5321</b>	<b>98796</b>
<b>7-10 km Korba tehsil, Korba district, Chhattisgarh</b>																	
57	Aurakachhar	145	493	251	242	78	42	36	11	241	282	166	116	279	10	269	214
58	Chuiya	255	889	442	447	120	56	64	50	539	500	314	186	332	252	80	557
59	Tapra	33	131	66	65	15	6	9	2	124	71	46	25	49	48	1	82
60	Parsakhola	66	221	118	103	24	13	11	4	193	121	79	42	117	22	95	104
61	Godhi	579	2499	1246	1253	378	183	195	1052	651	1502	872	630	970	573	397	1529
62	Kurudih	272	1256	586	670	156	65	91	80	424	800	446	354	555	509	46	701
63	Pandripani	369	1475	749	726	202	92	110	92	721	884	535	349	544	371	173	931
64	Kudri	169	654	316	338	87	39	48	100	401	408	244	164	282	278	4	372
65	Bendarkona	424	1757	891	866	270	137	133	713	375	1034	613	421	681	229	452	1076
66	Godma	126	524	267	257	74	38	36	24	457	282	180	102	362	108	254	162
67	Bundeli	455	1970	947	1023	310	141	169	230	1066	1015	578	437	1018	410	608	952



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

Sr.No.	Name of Village	No.of House Holds	Total Pop	Total M	Total F	Pop Below 6 Age group	Male Below 6 Age group	Female Below 6 Age group	SC Pop	ST Pop	Total Lit	Male Lit	Female Lit	Total Work	Main Work	Marg Work	Non Work
68	Dhengurdih	157	689	347	342	112	58	54	20	639	337	205	132	272	265	7	417
69	Rajgamar (CT)	2315	11544	5912	5632	1375	734	641	2393	2218	8261	4704	3557	3644	3141	503	7900
70	Korba) NO.-0006	2238	9619	4801	4818	1409	675	734	1302	1778	6010	3435	2575	3784	2435	1349	5835
Katghora tehsil, Korba district, Chhattisgarh																	
71	Madwamahuwa	95	335	158	177	32	16	16	10	158	221	127	94	103	102	1	232
72	Nawagaon Kalan	202	750	375	375	118	62	56	13	281	439	261	178	267	266	1	483
73	Jhabu	24	93	48	45	28	16	12	0	41	40	24	16	26	26	0	67
74	Khodri	117	562	268	294	65	35	30	10	314	358	186	172	140	122	18	422
75	Khairbhavna	179	726	371	355	81	41	40	0	526	459	283	176	458	401	57	268
76	Churrail	109	521	252	269	71	39	32	15	383	342	196	146	158	132	26	363
77	Risdi	159	802	394	408	128	63	65	84	446	531	307	224	320	315	5	482
78	Padhnia	241	952	478	474	133	62	71	69	665	581	360	221	413	254	159	539
79	Pali	196	973	493	480	139	73	66	138	8	645	379	266	354	193	161	619
80	Amgaon	82	375	192	183	34	21	13	30	252	246	155	91	168	104	64	207
81	Kanberi	210	831	435	396	128	73	55	313	377	503	303	200	501	54	447	330
82	Ghanadabri	99	371	201	170	40	21	19	0	185	250	161	89	192	51	141	179
83	Japeli	327	1141	583	558	122	68	54	509	231	716	429	287	723	255	468	418
84	Bata	148	573	283	290	72	40	32	345	172	394	223	171	342	94	248	231
85	KorbaW NO.-0039	1815	8176	4229	3947	1056	557	499	1018	2434	5476	3130	2346	2956	2064	892	5220
86	Korba W NO.-0040	1563	7213	3663	3550	951	485	466	904	1494	4785	2737	2048	2677	1871	806	4536
87	KorbaW NO.-0046	1486	7082	3691	3391	783	416	367	945	1770	5085	2956	2129	1979	1421	558	5103
	<b>Sub Total</b>	<b>14655</b>	<b>65197</b>	<b>33053</b>	<b>32144</b>	<b>8591</b>	<b>4367</b>	<b>4224</b>	<b>10476</b>	<b>19564</b>	<b>42578</b>	<b>24634</b>	<b>17944</b>	<b>24666</b>	<b>16376</b>	<b>8290</b>	<b>40531</b>
	<b>Grand Total</b>	<b>80731</b>	<b>353464</b>	<b>182950</b>	<b>170514</b>	<b>45966</b>	<b>23546</b>	<b>22420</b>	<b>45877</b>	<b>57840</b>	<b>251958</b>	<b>142599</b>	<b>109359</b>	<b>121040</b>	<b>103244</b>	<b>17796</b>	<b>232424</b>

Source: Census of India 2011



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

**ANNEXURE-4  
EDUCATIONAL FACILITIES IN THE RURAL STUDY AREA**

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
<b>0-3 km Korba tehsil, Korba district, Chhattisgarh</b>																											
1	Jambahar	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	Rogbahri	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	<b>Sub Total</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>3-7 km Korba tehsil, Korba district, Chhattisgarh</b>																											
3	Sonpuri	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	Dondro (Part)	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	Bela	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	Bhatgaon	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	Saraipali	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	Dumardih	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	Bhulsidih	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	Kesala	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	Naktikhar	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Katghora tehsil, Korba district, Chhattisgarh</b>																											
12	Barkuta	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	Sonpuri	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	<b>Sub Total</b>	<b>17</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>7-10 km Korba tehsil, Korba district, Chhattisgarh</b>																											
14	Aurakachhar	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	Chuiya	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	Tapra	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	Parsakhola	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	Godhi	2	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	Kurudih	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	Pandripani	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	Kudri	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	Bendarkona	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	Godma	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	Bundeli	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	Dhengurdih	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Katghora tehsil, Korba district, Chhattisgarh</b>																											
26	Madwamahuwa	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
27	Nawagaon Kalan	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	Jhabu	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	Khodri	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	Khairbhavna	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	Churrail	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	Risdi	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	Padhnia	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	Pali	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	Amgaon	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	Kanberi	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	Ghanadabri	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	Japeli	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	Bata	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	<b>Sub Total</b>	<b>31</b>	<b>0</b>	<b>12</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
	<b>Grand Total</b>	<b>50</b>	<b>0</b>	<b>18</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Source: Census of India 2011

1	Sr.No	6	Private Middle School (Numbers)	11	Govt Arts and Science Degree College (Numbers)	16	Private Medicine College (Numbers)	21	Govt Vocational Training School/ITI (Numbers)	26	Private School For Disabled (Numbers)
2	Village Name	7	Govt Secondary School (Numbers)	12	Private Arts and Science Degree College (Numbers)	17	Govt Management Institute (Numbers)	22	Private Vocational Training School/ITI (Numbers)	27	Government Others (Numbers)
3	Govt Primary School (Numbers)	8	Private Secondary School (Numbers)	13	Govt Engineering College (Numbers)	18	Private Management Institute (Numbers)	23	Government Non Formal Training Centre (Numbers)	28	Private Others (Numbers)
4	Private Primary School (Numbers)	9	Govt Senior Secondary School (Numbers)	14	Private Engineering College (Numbers)	19	Govt Polytechnic (Numbers)	24	Private Non Formal Training Centre (Numbers)		
5	Govt Middle School (Numbers)	10	Private Senior Secondary School (Numbers)	15	Govt Medicine College (Numbers)	20	Private Polytechnic (Numbers)	25	Government School For Disabled (Numbers)		



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

**ANNEXURE-5  
HEALTH FACILITIES IN THE RURAL STUDY AREA**

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
<b>0-3 km Korba tehsil, Korba district, Chhattisgarh</b>																						
1	Jambahar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	Rogbahri	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Sub Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>3-7 km Korba tehsil, Korba district, Chhattisgarh</b>																						
3	Sonpuri	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	Dondro (Part)	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	Bela	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	Bhatgaon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	Saraipali	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	Dumardih	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	Bhulsidih	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	Kesala	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	Naktikhar	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Katghora tehsil, Korba district, Chhattisgarh</b>																						
12	Barkuta	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	Sonpuri	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Sub Total</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>7-10 km Korba tehsil, Korba district, Chhattisgarh</b>																						
14	Aurakachhar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	Chuiya	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	Tapra	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	Parsakhola	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	Godhi	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
19	Kurudih	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	Pandripani	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	Kudri	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	Bendarkona	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	Godma	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	Bundeli	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0
25	Dhengurdih	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Katghora tehsil, Korba district, Chhattisgarh</b>																						
26	Madwamahuwa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	Nawagaon Kalan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	Jhabu	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	Khodri	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	Khairbhavna	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	Churraill	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
32	Risdi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	Padhnia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	Pali	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	Amgaon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	Kanberi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	Ghanadabri	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	Japeli	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	Bata	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	<b>Sub Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>
	<b>Grand Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>

Source: Census of India 2011

\*Note A(1) = Available, NA(0) = Not Available

1	Sr.No	6	Primary Health Sub Centre (Numbers)	11	TB Clinic Doctors Total Strength (Numbers)	16	Dispensary (Numbers)	21	Mobile Health Clinic Doctors Total Strength (Numbers)
2	Village Name	7	Primary Health Sub Centre Doctors Total Strength (Numbers)	12	Hospital Allopathic (Numbers)	17	Dispensary Doctors Total Strength (Numbers)	22	Family Welfare Centre (Numbers)
3	Community Health Centre (Numbers)	8	Maternity And Child Welfare Centre (Numbers)	13	Hospital Allopathic Doctors Total Strength (Numbers)	18	Veterinary Hospital (Numbers)	23	Family Welfare Centre Doctors Total Strength (Numbers)
4	Community Health Centre Doctors Total Strength (Numbers)	9	Maternity And Child Welfare Centre Doctors Total Strength (Numbers)	14	Hospital Allopathic Doctors Total Strength (Numbers)	19	Veterinary Hospital Doctors Total Strength (Numbers)	24	
5	Primary Health Centre (Numbers)	10	TB Clinic (Numbers)	15	Hospital Alternative Medicine Doctors Total Strength (Numbers)	20	Mobile Health Clinic (Numbers)	25	



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

**ANNEXURE-6  
DRINKING WATER FACILITIES AVAILABILITY IN NUMBER OF VILLAGES IN THE STUDY AREA**

Sr. No	Village Name	Tap Water-Treated (Status A(1)/N A(0))	Tap Water Untreated (Status A(1)/NA(0))	Covered Well (Status A(1)/N A(0))	Uncovered Well (Status A(1)/N A(0))	Hand Pump (Status A(1)/N A(0))	Tube Wells/Bore hole (Status A(1)/NA(0))	Spring (Status A(1)/N A(0))	River/ Canal (Status A(1)/N A(0))	Tank/Pond/Lake (Status A(1)/NA(0))	Others (Status A(1)/N A(0))
<b>0-3 km Korba tehsil, Korba district, Chhattisgarh</b>											
1	Jambahar	0	1	0	1	1	0	0	1	1	0
2	Rogbahri	0	1	0	1	1	1	0	1	1	0
	<b>Sub Total</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>0</b>
<b>3-7 km Korba tehsil, Korba district, Chhattisgarh</b>											
3	Sonpuri	0	1	0	1	1	0	0	1	1	0
4	Dondro (Part)	0	1	0	1	1	0	0	1	1	0
5	Bela	0	0	0	1	1	0	0	1	1	0
6	Bhatgaon	0	0	0	1	1	0	0	1	1	0
7	Saraipali	0	1	0	1	1	0	0	1	1	0
8	Dumardih	1	0	0	1	1	0	0	0	1	0
9	Bhulsidih	1	0	0	1	1	0	0	0	1	0
10	Kesala	0	0	0	1	1	0	0	0	1	0
11	Naktikhar	1	0	0	1	1	0	0	1	1	0
<b>Katghora tehsil, Korba district, Chhattisgarh</b>											
12	Barkuta	0	0	0	1	1	0	0	0	1	0
13	Sonpuri	0	0	0	1	1	1	0	1	1	0
	<b>Sub Total</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>11</b>	<b>11</b>	<b>1</b>	<b>0</b>	<b>7</b>	<b>11</b>	<b>0</b>
<b>7-10 km Korba tehsil, Korba district, Chhattisgarh</b>											
14	Aurakachhar	0	0	0	1	1	0	0	0	1	0
15	Chuiya	0	0	0	1	1	0	0	1	1	0
16	Tapra	0	0	0	1	1	0	0	1	1	0
17	Parsakhola	0	0	0	1	1	1	1	1	1	0
18	Godhi	0	0	0	1	1	1	0	1	1	0
19	Kurudih	0	0	0	1	1	0	0	1	1	0
20	Pandripani	0	0	0	1	1	1	0	0	1	0
21	Kudri	0	0	0	1	1	0	0	1	1	0



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

Sr. No	Village Name	Tap Water-Treated (Status A(1)/N A(0))	Tap Water Untreated (Status A(1)/NA(0))	Covered Well (Status A(1)/N A(0))	Uncovered Well (Status A(1)/N A(0))	Hand Pump (Status A(1)/N A(0))	Tube Wells/Bore hole (Status A(1)/NA(0))	Spring (Status A(1)/N A(0))	River/ Canal (Status A(1)/N A(0))	Tank/Pond/Lake (Status A(1)/NA(0))	Others (Status A(1)/N A(0))
22	Bendarkona	0	0	0	1	1	0	0	0	1	0
23	Godma	0	0	0	1	1	0	0	0	1	0
24	Bundeli	0	0	0	1	1	1	0	1	1	0
25	Dhengurdih	0	0	0	1	1	0	0	0	1	0
<b>Katghora tehsil, Korba district, Chhattisgarh</b>											
26	Madwamahua	0	0	0	1	1	0	0	0	1	0
27	Nawagaon Kalan	0	0	0	1	1	0	0	1	0	0
28	Jhabu	0	0	0	1	1	0	0	1	1	0
29	Khodri	0	1	0	1	1	1	0	0	1	0
30	Khairbhavna	0	0	0	1	1	1	0	1	1	0
31	Churrail	0	0	0	1	1	0	0	0	1	0
32	Risdi	0	1	0	1	1	0	0	0	1	0
33	Padhnia	0	0	0	1	1	1	0	0	1	0
34	Pali	0	0	0	1	1	1	0	0	1	0
35	Amgaon	0	0	0	1	1	0	0	0	1	0
36	Kanberi	0	0	0	1	1	0	0	1	1	0
37	Ghanadabri	0	0	0	1	1	0	0	0	1	0
38	Japeli	0	0	0	1	1	0	0	0	1	0
39	Bata	0	0	0	1	1	0	0	0	1	0
	<b>Sub Total</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>26</b>	<b>26</b>	<b>8</b>	<b>1</b>	<b>11</b>	<b>25</b>	<b>0</b>
	<b>Grand Total</b>	<b>3</b>	<b>7</b>	<b>0</b>	<b>39</b>	<b>39</b>	<b>10</b>	<b>1</b>	<b>20</b>	<b>38</b>	<b>0</b>
<b>Source: Census of India 2011</b>											
<b>*Note A(1) = Available, NA(0) = Not Available</b>											



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

**ANNEXURE-7  
AVERAGE DRINKING WATER FACILITIES IN URBAN AREA OF THE STUDY AREA**

Sr. No	Area Name	Main Source of Drinking Water										Location of drinking water source		
		Tap water from treated source	Tap water from un-treated source	Covered well	Un-covered well	Hand pump	Tube well/Borehole	Spring	River/ Canal	Tank/ Pond/ Lake	Other sources	Within premises	Near premises	Away
0-3 km Korba tehsil, Korba district, Chhattisgarh														
1	Korba (M Corp. + OG) (Part) - Ward No.21	46.5	5.5	1.6	14.4	7.8	24.1	0	0.1	0.1	0.1	77.1	18.2	4.7
2	Korba (M Corp. + OG) (Part) - Ward No.23	7.3	10.9	0.3	40.4	24.4	16.6	0	0	0	0.1	52.8	31	16.3
3	Korba (M Corp. + OG) (Part) - Ward No.24	21	8.5	11.7	19.9	29.8	8.2	0.1	0.4	0.5	0	55.6	25.9	18.5
4	Korba (M Corp. + OG) (Part) - Ward No.25	23.6	1.9	4.2	11.2	55	3.8	0.1	0.1	0	0.1	47.7	32.6	19.7
5	Korba (M Corp. + OG) (Part) - Ward No.26	0.8	0	12.9	41.1	38.5	6.5	0	0	0.2	0	60.8	15.1	24
6	Korba (M Corp. + OG) (Part) - Ward No.27	16.3	2.5	6.5	46.4	14.1	8.8	0	0.1	0.1	5.2	56.4	27.3	16.3
7	Korba (M Corp. + OG) (Part) - Ward No.28	99.9	0.1	0	0	0	0	0	0	0	0	100	0	0
8	Korba (M Corp. + OG) (Part) - Ward No.29	100	0	0	0	0	0	0	0	0	0	100	0	0
9	Korba (M Corp. + OG) (Part) - Ward No.30	68.4	1.5	1	16.1	8.6	0.1	0.1	0.4	3.7	0.2	70.5	17.8	11.7
10	Korba (M Corp. + OG) (Part) - Ward No.31	14.3	0.6	6	34.3	40.9	3.9	0	0	0	0.1	56.2	21.7	22.1
11	Korba (M Corp. + OG) (Part) - Ward No.32	5.2	11.6	2.8	21.5	57.7	1.1	0	0	0	0.2	20.8	46.8	32.5
12	Korba (M Corp. + OG) (Part) - Ward No.33	44.3	24	1.8	4.4	21.4	4	0	0	0.1	0	50.3	41.1	8.6
13	Korba (M Corp. + OG) (Part) - Ward No.34	1.9	0.4	2.7	30.9	52.2	0.6	0	0.4	0	10.8	10.3	31.9	57.8
14	Korba (M Corp. + OG) (Part) - Ward No.9	68.9	0.7	0	0	5.8	24.4	0	0	0	0.3	46	54	0
15	Korba (M Corp. + OG) (Part) - Ward No.10	48.7	24.2	0.9	6.5	13.9	5.8	0	0	0	0	43.1	44.5	12.4
16	Korba (M Corp. + OG) (Part) - Ward No.11	18.5	13.6	1.4	10.1	17.2	38.2	0	0.8	0.1	0.1	15.1	64.1	20.8
17	Korba (M Corp. + OG) (Part) - Ward No.12	25.8	31.8	4.6	21	10.7	0.6	0	2.3	3	0.1	30.3	58.3	11.4
18	Korba (M Corp. + OG) (Part) - Ward No.13	68.6	1.4	10	10.4	4.2	2	0.1	10	3.1	0.1	79.1	16.9	4
19	Korba (M Corp. + OG) (Part) - Ward No.14	99.7	0.3	0	0	0	0	0	0	0	0	99.9	0.1	0
20	Korba (M Corp. + OG) (Part) - Ward No.15	21.5	10.6	0.9	0.4	49.1	16.6	0	0	0	0.9	15.5	76.8	7.7
21	Korba (M Corp. + OG) (Part) - Ward No.16	24.1	24	1.5	0.1	29	21.3	0	0	0	0	19.7	73	7.3
22	Korba (M Corp. + OG) (Part) - Ward No.18	64.9	10.2	0.1	4.4	15	5.2	0	0	0	0	71.3	23.5	5.2
Katghora tehsil, Korba district, Chhattisgarh														
23	Korba (M Corp.) (Part) - Ward No.43	20.6	21.2	1.4	17.3	26.3	13.1	0.1	0	0	0	53	38	9.1
<b>% of Facilities</b>		<b>910.8</b>	<b>205.5</b>	<b>72.3</b>	<b>350.8</b>	<b>521.6</b>	<b>204.9</b>	<b>0.5</b>	<b>4.6</b>	<b>10.9</b>	<b>18.3</b>	<b>1231.5</b>	<b>758.6</b>	<b>310.1</b>
<b>Sub Total</b>		<b>2300.2</b>	<b>2300.2</b>	<b>2300.2</b>	<b>2300.2</b>	<b>2300.2</b>	<b>2300.2</b>	<b>2300.2</b>	<b>2300.2</b>	<b>2300.2</b>	<b>2300.2</b>	<b>2300.2</b>	<b>2300.2</b>	<b>2300.2</b>
<b>Average</b>		<b>39.60</b>	<b>8.93</b>	<b>3.14</b>	<b>15.25</b>	<b>22.68</b>	<b>8.91</b>	<b>0.02</b>	<b>0.20</b>	<b>0.47</b>	<b>0.80</b>	<b>53.54</b>	<b>32.98</b>	<b>13.48</b>
3-7 km Korba tehsil, Korba district, Chhattisgarh														
24	Korba (M Corp. + OG) (Part) - Ward No.1	51.1	29	1.1	6.7	8.5	3.6	0	0	0	0	53.8	32.6	13.7
25	Korba (M Corp. + OG) (Part) - Ward No.2	17.1	4.9	2.8	34.6	27.1	13.4	0	0	0	0	42.9	35.3	21.8
26	Korba (M Corp. + OG) (Part) - Ward No.3	58.2	12	0	0.1	7.1	22.5	0.1	0.1	0	0	52.8	33.8	13.4
27	Korba (M Corp. + OG) (Part) - Ward No.4	38.9	21	0.2	1.7	14	24	0	0	0	0.2	64.1	27.8	8.2
28	Korba (M Corp. + OG) (Part) - Ward No.5	49.3	14.8	0.7	9.6	23.1	2.6	0	0	0	0	30.9	48.9	20.2

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86



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

Sr. No	Area Name	Main Source of Drinking Water										Location of drinking water source		
		Tap water from treated source	Tap water from un-treated source	Covered well	Un-covered well	Hand pump	Tube well/Borehole	Spring	River/ Canal	Tank/ Pond/ Lake	Other sources	Within premises	Near premises	Away
29	Korba (M Corp. + OG) (Part) - Ward No.7	37.1	16.7	1	12.7	14.9	17	0	0	0	0.5	53.2	34.4	12.4
30	Korba (M Corp. + OG) (Part) - Ward No.8	36.3	2.8	0.1	3.3	42.7	14.3	0	0	0	0.5	42.7	38.3	19
31	Korba (M Corp. + OG) (Part) - Ward No.17	72.4	0.3	1.2	10.1	4.6	11.5	0	0	0	0	87.7	10.3	2
32	Korba (M Corp. + OG) (Part) - Ward No.19	9.2	0.1	0.7	1.3	58.5	29.7	0	0.2	0.1	0.2	28.7	64.9	6.4
33	Korba (M Corp. + OG) (Part) - Ward No.20	43.1	11.7	1.8	22	15.9	5.3	0	0.1	0	0.1	68.9	18.6	12.5
34	Korba (M Corp. + OG) (Part) - Ward No.22	33.4	1.1	0.3	32.2	30.2	2.1	0.3	0	0	0.4	52.4	33.9	13.7
3-7 km Katghora tehsil, Korba district, Chhattisgarh														
35	Korba (M Corp.) (Part) - Ward No.35	48	4.5	5.6	20.3	20	1.5	0	0	0	0.1	27.4	63	9.7
36	Korba (M Corp.) (Part) - Ward No.36	87.1	4.9	0.9	7	0	0.1	0	0	0	0	96.7	2.6	0.6
37	Korba (M Corp.) (Part) - Ward No.37	99.8	0	0	0	0	0	0.1	0	0	0.1	99.8	0.2	0
38	Korba (M Corp.) (Part) - Ward No.38	46.1	4.2	13.1	18.3	16.8	1.3	0	0	0.2	0	65.1	30.6	4.3
39	Korba (M Corp.) (Part) - Ward No.41	100	0	0	0	0	0	0	0	0	0	99.9	0.1	0
40	Korba (M Corp.) (Part) - Ward No.42	99.8	0	0.1	0	0	0	0	0	0.1	0	99.9	0.1	0
41	Korba (M Corp.) (Part) - Ward No.44	8.5	6.3	1.7	10.2	70.3	2.3	0	0.6	0	0	26.2	56.8	17
42	Korba (M Corp.) (Part) - Ward No.45	15.9	4.1	0.1	27.4	31.2	14.5	0	6.8	0.1	0	54.4	30.3	15.3
43	Korba (M Corp.) (Part) - Ward No.47	48.3	2.6	0.5	16.8	13.6	8.6	0.1	1.9	0	7.7	62.3	25.5	12.2
<b>% of Facilities</b>		<b>999.6</b>	<b>141</b>	<b>31.9</b>	<b>234.3</b>	<b>398.5</b>	<b>174.3</b>	<b>0.6</b>	<b>9.7</b>	<b>0.5</b>	<b>9.8</b>	<b>1209.8</b>	<b>588</b>	<b>202.4</b>
<b>Sub Total</b>		<b>2000.2</b>	<b>2000.2</b>	<b>2000.2</b>	<b>2000.2</b>	<b>2000.2</b>	<b>2000.2</b>	<b>2000.2</b>	<b>2000.2</b>	<b>2000.2</b>	<b>2000.2</b>	<b>2000.2</b>	<b>2000.2</b>	<b>2000.2</b>
<b>Average</b>		<b>49.975</b>	<b>7.0493</b>	<b>1.5948</b>	<b>11.714</b>	<b>19.923</b>	<b>8.7141</b>	<b>0.03</b>	<b>0.485</b>	<b>0.025</b>	<b>0.49</b>	<b>60.48</b>	<b>29.40</b>	<b>10.12</b>
7-10 km Korba tehsil, Korba district, Chhattisgarh														
44	Rajgamar (CT) - Ward No.1	83	2.1	0.8	4.7	5.9	3.1	0	0.3	0	0	61.1	34.2	4.6
45	Korba (M Corp. + OG) (Part) - Ward No.6	4.7	3.8	2.5	27.9	31.6	19.3	0.7	9.2	0.1	0.1	19.8	55.3	25
Katghora tehsil, Korba district, Chhattisgarh														
46	Korba (M Corp.) (Part) - Ward No.39	5.1	1.6	3.9	39.9	45.6	3.7	0	0	0	0.1	45.4	32.7	21.9
47	Korba (M Corp.) (Part) - Ward No.40	1	2.5	1.8	26.5	59.4	4.2	0	4.2	0.2	0.2	29.3	55.9	14.9
48	Korba (M Corp.) (Part) - Ward No.46	53.5	11.1	0.6	22.8	9.2	2.4	0	0.3	0	0	72.5	20.1	7.4
<b>% of Facilities</b>		<b>147.3</b>	<b>21.1</b>	<b>9.6</b>	<b>121.8</b>	<b>151.7</b>	<b>32.7</b>	<b>0.7</b>	<b>14</b>	<b>0.3</b>	<b>0.4</b>	<b>228.1</b>	<b>198.2</b>	<b>73.8</b>
<b>Sub Total</b>		<b>499.6</b>	<b>499.6</b>	<b>499.6</b>	<b>499.6</b>	<b>499.6</b>	<b>499.6</b>	<b>499.6</b>	<b>499.6</b>	<b>499.6</b>	<b>499.6</b>	<b>500.1</b>	<b>500.1</b>	<b>500.1</b>
<b>Average</b>		<b>29.48</b>	<b>4.22</b>	<b>1.92</b>	<b>24.38</b>	<b>30.36</b>	<b>6.55</b>	<b>0.14</b>	<b>2.80</b>	<b>0.06</b>	<b>0.08</b>	<b>45.61</b>	<b>39.63</b>	<b>14.76</b>
<b>0- 10 km Grand total % of facilities</b>		<b>2057.7</b>	<b>367.6</b>	<b>113.8</b>	<b>706.9</b>	<b>1071.8</b>	<b>411.9</b>	<b>1.8</b>	<b>28.3</b>	<b>11.7</b>	<b>28.5</b>	<b>2669.4</b>	<b>1544.8</b>	<b>586.3</b>
<b>0- 10 km Grand Total</b>		<b>4800</b>	<b>4800</b>	<b>4800</b>	<b>4800</b>	<b>4800</b>	<b>4800</b>	<b>4800</b>	<b>4800</b>	<b>4800</b>	<b>4800</b>	<b>4800.5</b>	<b>4800.5</b>	<b>4800.5</b>
<b>0- 10 km Total Average</b>		<b>42.87</b>	<b>7.66</b>	<b>2.37</b>	<b>14.73</b>	<b>22.33</b>	<b>8.58</b>	<b>0.04</b>	<b>0.59</b>	<b>0.24</b>	<b>0.59</b>	<b>55.61</b>	<b>32.18</b>	<b>12.21</b>

Source: Census of India 2011



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

**ANNEXURE-8  
COMMUNICATION INFRASTRUCTURE ON THE RURAL STUDY AREA**

Sr. No	Village Name	Post Office (Status A(1)/NA(0))	Sub Post Office (Status A(1)/NA(0))	Post And Telegraph Office (Status A(1)/NA(0))	Telephone (landlines) (Status A(1)/NA(0))	Public Call Office /Mobile (PCO) (Status A(1)/NA(0))	Mobile Phone Coverage (Status A(1)/NA(0))	Internet Cafes / Common Service Centre (CSC) (Status A(1)/NA(0))	Private Courier Facility (Status A(1)/NA(0))	Public Bus Service (Status A(1)/NA(0))	Private Bus Service (Status A(1)/NA(0))	Railway Station (Status A(1)/NA(0))	Auto/Modified Autos (Status A(1)/NA(0))	Taxi (Status A(1)/NA(0))	Vans (Status A(1)/NA(0))
<b>0-3 km Korba tehsil, Korba district, Chhattisgarh</b>															
1	Jambahar	0	0	0	0	0	1	0	0	0	1	0	0	0	0
2	Rogbahri	0	0	0	0	0	1	0	0	0	0	0	0	0	0
	<b>Sub Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>3-7 km Korba tehsil, Korba district, Chhattisgarh</b>															
3	Sonpuri	0	0	0	0	0	1	0	0	0	0	0	0	0	0
4	Dondro (Part)	0	0	0	0	0	1	0	0	0	0	0	0	0	0
5	Bela	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	Bhatgaon	0	0	0	0	0	1	0	0	0	0	0	0	0	0
7	Saraipali	0	0	0	0	0	1	0	0	0	1	0	0	0	0
8	Dumardih	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	Bhulsidih	0	0	0	0	0	1	0	0	0	0	0	0	0	0
10	Kesala	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	Naktikhar	0	0	0	1	0	1	0	0	0	1	0	0	0	0
<b>Katghora tehsil, Korba district, Chhattisgarh</b>															
12	Barkuta	0	0	0	0	0	1	0	0	0	0	0	0	0	0
13	Sonpuri	0	0	0	0	0	1	0	0	0	0	0	0	0	0
	<b>Sub Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>7-10 km Korba tehsil, Korba district, Chhattisgarh</b>															
14	Aurakachhar	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	Chuiya	0	0	0	0	0	1	0	0	0	1	0	0	0	0
16	Tapra	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	Parsakhola	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	Godhi	1	0	0	1	0	1	0	0	0	0	0	0	0	0
19	Kurudih	0	0	0	1	0	0	0	0	0	0	0	0	0	0
20	Pandripani	0	0	0	1	1	1	0	0	0	1	0	0	0	0
21	Kudri	0	0	0	1	0	0	0	0	0	0	0	0	0	0
22	Bendarkona	0	0	0	0	0	1	0	0	0	0	0	0	0	0
23	Godma	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	Bundeli	0	1	0	0	0	0	0	0	0	0	0	0	0	0
25	Dhengurdih	0	0	0	0	0	0	0	0	0	1	0	0	0	0
<b>Katghora tehsil, Korba district, Chhattisgarh</b>															
26	Madwamahua	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	Nawagaon Kalan	0	0	0	0	0	0	0	0	0	0	0	0	0	0



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

Sr. No	Village Name	Post Office (Status A(1)/NA(0))	Sub Post Office (Status A(1)/NA(0))	Post And Telegraph Office (Status A(1)/NA(0))	Telephone (landlines) (Status A(1)/NA(0))	Public Call Office / Mobile (PCO) (Status A(1)/NA(0))	Mobile Phone Coverage (Status A(1)/NA(0))	Internet Cafes / Common Service Centre (CSC) (Status A(1)/NA(0))	Private Courier Facility (Status A(1)/NA(0))	Public Bus Service (Status A(1)/NA(0))	Private Bus Service (Status A(1)/NA(0))	Railway Station (Status A(1)/NA(0))	Auto/Modified Autos (Status A(1)/NA(0))	Taxi (Status A(1)/NA(0))	Vans (Status A(1)/NA(0))
28	Jhabu	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	Khodri	0	0	0	0	0	1	0	0	0	1	0	0	0	0
30	Khairbhavna	0	0	0	0	0	1	0	0	0	0	0	0	0	0
31	Churrail	0	0	0	0	0	1	0	0	0	0	0	0	0	0
32	Risdi	0	0	0	0	0	1	0	0	0	0	0	0	0	0
33	Padhnia	1	1	0	1	1	0	0	0	0	0	0	0	0	0
34	Pali	0	0	0	0	0	1	0	0	0	0	0	0	0	0
35	Amgaon	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	Kanberi	0	0	0	0	0	0	0	0	0	1	0	0	0	0
37	Ghanadabri	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	Japeli	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	Bata	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	<b>Sub Total</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>7</b>	<b>2</b>	<b>29</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>11</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
	<b>Grand Total</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>8</b>	<b>2</b>	<b>39</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>14</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Source: Census of India 2011

\*Note A(1) = Available, NA(0) = Not Available



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

**ANNEXURE-9  
DRAINAGE FACILITIES IN THE RURAL STUDY AREA**

Sr. No	Village Name	Closed Drainage (Status A(1)/NA(0))	Open Drainage (Status A(1)/NA(0))	No Drainage (Status A(1)/NA(0))	Is the Area Covered under Total Sanitation Campaign (TSC)? (Status A(1)/NA(0))
<b>0-3 km Korba tehsil, Korba district, Chhattisgarh</b>					
1	Jambahar	0	1	0	0
2	Rogbahri	0	1	0	0
	<b>Sub Total</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>
<b>3-7 km Korba tehsil, Korba district, Chhattisgarh</b>					
3	Sonpuri	0	0	1	0
4	Dondro (Part)	0	0	1	0
5	Bela	0	0	1	0
6	Bhatgaon	0	0	1	1
7	Saraipali	0	0	1	0
8	Dumardih	0	1	0	0
9	Bhulsidih	0	1	0	0
10	Kesala	0	0	1	0
11	Naktikhar	0	0	1	0
<b>Katghora tehsil, Korba district, Chhattisgarh</b>					
12	Barkuta	0	1	0	0
13	Sonpuri	0	0	1	0
	<b>Sub Total</b>	<b>0</b>	<b>3</b>	<b>8</b>	<b>1</b>
<b>7-10 km Korba tehsil, Korba district, Chhattisgarh</b>					
14	Aurakachhar	0	0	1	0
15	Chuiya	0	0	1	0
16	Tapra	0	0	1	0
17	Parsakhola	0	0	1	0
18	Godhi	0	0	1	0
19	Kurudih	0	1	0	1
20	Pandripani	0	0	1	1
21	Kudri	0	1	0	1
22	Bendarkona	0	0	1	0



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

Sr. No	Village Name	Closed Drainage (Status A(1)/NA(0))	Open Drainage (Status A(1)/NA(0))	No Drainage (Status A(1)/NA(0))	Is the Area Covered under Total Sanitation Campaign (TSC)? (Status A(1)/NA(0))
23	Godma	0	0	1	0
24	Bundeli	0	0	1	0
25	Dhengurdih	0	0	1	0
Katghora tehsil, Korba district, Chhattisgarh					
26	Madwamahuwa	0	0	1	0
27	Nawagaon Kalan	0	0	1	0
28	Jhabu	0	0	1	0
29	Khodri	0	0	1	0
30	Khairbhavna	0	0	1	1
31	Churrail	0	0	1	0
32	Risdi	0	0	1	0
33	Padhnia	0	0	1	1
34	Pali	0	1	0	0
35	Amgaon	0	0	1	0
36	Kanberi	0	0	1	0
37	Ghanadabri	0	0	1	0
38	Japeli	0	0	1	0
39	Bata	0	0	1	0
	<b>Sub Total</b>	<b>0</b>	<b>3</b>	<b>23</b>	<b>5</b>
	<b>Grand Total</b>	<b>0</b>	<b>8</b>	<b>31</b>	<b>6</b>
<b>Source: Census of India 2011</b>					
<b>*Note A(1) = Available, NA(0) = Not Available</b>					



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

**ANNEXURE-10  
DRAINAGE FACILITIES IN THE URBAN STUDY AREA**

Sr. No	Area Name	Waste water outlet connected to		
		Closed drainage	Open drainage	No drainage
<b>0-3 km Korba tehsil, Korba district, Chhattisgarh</b>				
1	Korba (M Corp. + OG) (Part) - Ward No.21	23.2	49.5	27.4
2	Korba (M Corp. + OG) (Part) - Ward No.23	11.5	24.7	63.8
3	Korba (M Corp. + OG) (Part) - Ward No.24	7.3	42.9	49.7
4	Korba (M Corp. + OG) (Part) - Ward No.25	11.2	37.6	51.3
5	Korba (M Corp. + OG) (Part) - Ward No.26	7.5	32	60.5
6	Korba (M Corp. + OG) (Part) - Ward No.27	11.8	14.5	73.6
7	Korba (M Corp. + OG) (Part) - Ward No.28	100	0	0
8	Korba (M Corp. + OG) (Part) - Ward No.29	100	0	0
9	Korba (M Corp. + OG) (Part) - Ward No.30	58.9	9.1	32
10	Korba (M Corp. + OG) (Part) - Ward No.31	14.4	32.5	53.2
11	Korba (M Corp. + OG) (Part) - Ward No.32	2.3	47.4	50.3
12	Korba (M Corp. + OG) (Part) - Ward No.33	25.2	28.1	46.7
13	Korba (M Corp. + OG) (Part) - Ward No.34	0.8	8.5	90.7
14	Korba (M Corp. + OG) (Part) - Ward No.9	24.8	60.1	15.1
15	Korba (M Corp. + OG) (Part) - Ward No.10	2.2	63.3	34.5
16	Korba (M Corp. + OG) (Part) - Ward No.11	18.3	40.9	40.8
17	Korba (M Corp. + OG) (Part) - Ward No.12	8.6	51.7	39.7
18	Korba (M Corp. + OG) (Part) - Ward No.13	44.9	47.2	7.9
19	Korba (M Corp. + OG) (Part) - Ward No.14	2.2	97.7	0.1
20	Korba (M Corp. + OG) (Part) - Ward No.15	30.9	37.7	31.4
21	Korba (M Corp. + OG) (Part) - Ward No.16	5.7	78.6	15.7
22	Korba (M Corp. + OG) (Part) - Ward No.18	46.6	40.4	13
<b>0-3 km Katghora tehsil, Korba district, Chhattisgarh</b>				
23	Korba (M Corp.) (Part) - Ward No.43	34	28.4	37.6
	<b>% of Facilities</b>	<b>592.3</b>	<b>872.8</b>	<b>835</b>
	<b>Sub Total</b>	<b>2300.1</b>	<b>2300.1</b>	<b>2300.1</b>



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

Sr. No	Area Name	Waste water outlet connected to		
		Closed drainage	Open drainage	No drainage
	<b>Average</b>	<b>25.751</b>	<b>37.946</b>	<b>36.303</b>
<b>3-7 km Korba tehsil, Korba district, Chhattisgarh</b>				
24	Korba (M Corp. + OG) (Part) - Ward No.1	16.2	65.4	18.4
25	Korba (M Corp. + OG) (Part) - Ward No.2	12	49.8	38.2
26	Korba (M Corp. + OG) (Part) - Ward No.3	6.2	79.8	14
27	Korba (M Corp. + OG) (Part) - Ward No.4	18	68.5	13.6
28	Korba (M Corp. + OG) (Part) - Ward No.5	2.5	54.5	43
29	Korba (M Corp. + OG) (Part) - Ward No.7	18.3	67.1	14.6
30	Korba (M Corp. + OG) (Part) - Ward No.8	17.1	46.9	35.9
31	Korba (M Corp. + OG) (Part) - Ward No.17	52.7	33.8	13.5
32	Korba (M Corp. + OG) (Part) - Ward No.19	2.7	82.7	14.7
33	Korba (M Corp. + OG) (Part) - Ward No.20	18.5	61.1	20.5
34	Korba (M Corp. + OG) (Part) - Ward No.22	5.3	32.2	62.4
Katghora tehsil, Korba district, Chhattisgarh				
35	Korba (M Corp.) (Part) - Ward No.35	3.6	41.5	55
36	Korba (M Corp.) (Part) - Ward No.36	34.5	60.7	4.8
37	Korba (M Corp.) (Part) - Ward No.37	35.6	64.4	0
38	Korba (M Corp.) (Part) - Ward No.38	32.9	18.2	48.9
39	Korba (M Corp.) (Part) - Ward No.41	99.7	0.1	0.2
40	Korba (M Corp.) (Part) - Ward No.42	98.4	1.6	0
41	Korba (M Corp.) (Part) - Ward No.44	6.8	42.2	51
42	Korba (M Corp.) (Part) - Ward No.45	16.8	17.9	65.3
43	Korba (M Corp.) (Part) - Ward No.47	9.5	49.7	40.8
	<b>% of Facilities</b>	507.3	938.1	554.8
	<b>Sub Total</b>	<b>2000.2</b>	<b>2000.2</b>	<b>2000.2</b>
	<b>Average</b>	<b>25.36</b>	<b>46.90</b>	<b>27.74</b>
<b>7-10 km Korba tehsil, Korba district, Chhattisgarh</b>				
44	Rajgamar (CT) - Ward No.1	0.5	62.9	36.6
45	Korba (M Corp. + OG) (Part) - Ward No.6	3.4	36.8	59.8
Katghora tehsil, Korba district, Chhattisgarh				
46	Korba (M Corp.) (Part) - Ward No.39	5.3	42.9	51.8



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

Sr. No	Area Name	Waste water outlet connected to		
		Closed drainage	Open drainage	No drainage
47	Korba (M Corp.) (Part) - Ward No.40	1.4	8.4	90.2
48	Korba (M Corp.) (Part) - Ward No.46	0.3	57.6	42.1
	<b>% of Facilities</b>	<b>10.9</b>	<b>208.6</b>	<b>280.5</b>
	<b>Sub Total</b>	<b>500</b>	<b>500</b>	<b>500</b>
	<b>Average</b>	<b>2.18</b>	<b>41.72</b>	<b>56.1</b>
	<b>0- 10 km Grand total % of facilities</b>	<b>1110.5</b>	<b>2019.5</b>	<b>1670.3</b>
	<b>0- 10 km Grand Total</b>	<b>4800.3</b>	<b>4800.3</b>	<b>4800.3</b>
	<b>0- 10 km Total Average</b>	<b>23.13</b>	<b>42.07</b>	<b>34.80</b>

**Source: Census of India 2011**



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

**ANNEXURE-11  
VILLAGE WISE AVAILABLE SHG AND BANKING FACILITIES IN THE STUDY AREA**

Sr.No	Village Name	ATM (Status A(1)/NA(0))	Commercial Bank (Status A(1)/NA(0))	Cooperative Bank (Status A(1)/NA(0))	Self - Help Group (SHG) (Status A(1)/NA(0))	Nutritional Centres- Anganwadi Centre (Status A(1)/NA(0))
<b>0-3 km Korba tehsil, Korba district, Chhattisgarh</b>						
1	Jambahar	0	0	0	1	1
2	Rogbahri	0	0	0	1	1
	<b>Sub Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>2</b>
<b>3-7 km Korba tehsil, Korba district, Chhattisgarh</b>						
3	Sonpuri	0	0	0	1	1
4	Dondro (Part)	0	0	0	1	1
5	Bela	0	0	0	1	1
6	Bhatgaon	0	0	0	1	1
7	Saraipali	0	0	0	1	1
8	Dumardih	0	0	0	1	1
9	Bhulsidih	0	0	0	1	1
10	Kesala	0	0	0	0	1
11	Naktikhar	0	0	0	1	1
<b>Katghora tehsil, Korba district, Chhattisgarh</b>						
12	Barkuta	0	0	0	0	1
13	Sonpuri	0	0	0	0	1
	<b>Sub Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>11</b>
<b>7-10 km Korba tehsil, Korba district, Chhattisgarh</b>						
14	Aurakachhar	0	0	0	1	1
15	Chuiya	0	0	0	1	1
16	Tapra	0	0	0	1	1
17	Parsakhola	0	0	0	1	1
18	Godhi	0	0	0	1	1
19	Kurudih	0	0	0	1	1
20	Pandripani	0	0	0	1	1
21	Kudri	0	0	0	1	1
22	Bendarkona	0	0	0	1	1
23	Godma	0	0	0	1	1
24	Bundeli	0	0	0	1	1
25	Dhengurdih	0	0	0	1	1



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

Sr.No	Village Name	ATM (Status A(1)/NA(0))	Commercial Bank (Status A(1)/NA(0))	Cooperative Bank (Status A(1)/NA(0))	Self - Help Group (SHG) (Status A(1)/NA(0))	Nutritional Centres- Anganwadi Centre (Status A(1)/NA(0))
Katghora tehsil, Korba district, Chhattisgarh						
26	Madwamahuwa	0	0	0	1	1
27	Nawagaon Kalan	0	0	0	1	1
28	Jhabu	0	0	0	1	1
29	Khodri	0	0	0	1	1
30	Khairbhavna	0	0	0	1	1
31	Churrail	0	0	0	1	1
32	Risdi	0	0	0	1	1
33	Padhnia	0	0	0	1	1
34	Pali	0	0	0	0	1
35	Amgaon	0	0	0	1	1
36	Kanberi	0	0	1	1	1
37	Ghanadabri	0	0	0	1	1
38	Japeli	0	0	0	1	1
39	Bata	0	0	0	1	1
	<b>Sub Total</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>25</b>	<b>26</b>
	<b>Grand Total</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>35</b>	<b>39</b>

Source: Census of India 2011

\*Note A(1) = Available, NA(0) = Not Available



*Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh*

**ANNEXURE-12  
AVAILABILITY OF POWER SUPPLY IN THE RURAL STUDY AREA**

Sr.No	Village Name	Power Supply For Domestic Use (Status A(1)/NA(0))	Power Supply For Agriculture Use (Status A(1)/NA(0))	Power Supply For Commercial Use (Status A(1)/NA(0))	Power Supply For All Users (Status A(1)/NA(0))
<b>0-3 km Korba tehsil, Korba district, Chhattisgarh</b>					
1	Jambahar	1	1	1	1
2	Rogbahri	1	1	1	1
	<b>Sub Total</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>
<b>3-7 km Korba tehsil, Korba district, Chhattisgarh</b>					
3	Sonpuri	1	1	1	1
4	Dondro (Part)	1	1	1	1
5	Bela	1	1	0	0
6	Bhatgaon	1	0	0	1
7	Saraipali	1	0	0	0
8	Dumardih	1	0	0	0
9	Bhulsidih	1	0	0	0
10	Kesala	1	0	0	0
11	Naktikhar	1	0	0	1
<b>Katghora tehsil, Korba district, Chhattisgarh</b>					
12	Barkuta	1	1	1	1
13	Sonpuri	1	1	1	1
	<b>Sub Total</b>	<b>11</b>	<b>5</b>	<b>4</b>	<b>6</b>
<b>7-10 km Korba tehsil, Korba district, Chhattisgarh</b>					
14	Aurakachhar	1	1	1	1
15	Chuiya	1	1	1	1
16	Tapra	1	1	0	0
17	Parsakhola	1	1	0	1
18	Godhi	1	1	0	1
19	Kurudih	1	1	0	1
20	Pandripani	1	1	0	1
21	Kudri	1	1	0	0
22	Bendarkona	1	1	0	0
23	Godma	1	0	0	0
24	Bundeli	1	0	0	0
25	Dhengurdih	1	0	0	0



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

Sr.No	Village Name	Power Supply For Domestic Use (Status A(1)/NA(0))	Power Supply For Agriculture Use (Status A(1)/NA(0))	Power Supply For Commercial Use (Status A(1)/NA(0))	Power Supply For All Users (Status A(1)/NA(0))
<b>Katghora tehsil, Korba district, Chhattisgarh</b>					
26	Madwamahuwa	1	0	0	0
27	Nawaqaon Kalan	1	0	0	0
28	Jhabu	1	0	0	0
29	Khodri	1	1	0	0
30	Khairbhavna	1	0	0	0
31	Churraill	1	0	0	0
32	Risdi	1	1	0	0
33	Padhnia	1	1	0	0
34	Pali	1	1	1	1
35	Amgaon	1	0	0	0
36	Kanberi	1	0	0	0
37	Ghanadabri	1	0	0	0
38	Japeli	1	0	0	0
39	Bata	1	0	0	0
	Sub Total	26	13	3	7
	<b>Grand Total</b>	<b>39</b>	<b>20</b>	<b>9</b>	<b>15</b>
<b>Source: Census of India 2011</b>					
<b>*Note A(1) = Available, NA(0) = Not Available</b>					



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

**ANNEXURE-13  
ROAD CONNECTIVITY IN THE RURAL STUDY AREA**

Sr.No	Village Name	National Highway (Status A(1)/NA(0))	State Highway (Status A(1)/NA(0))	Major District Road (Status A(1)/NA(0))	Other District Road (Status A(1)/NA(0))	Black Topped (pucca) Road (Status A(1)/NA(0))	Gravel (kuchha) Roads (Status A(1)/NA(0))	Water Bounded Macadam (Status A(1)/NA(0))	All Weather Road (Status A(1)/NA(0))	Navigable Waterways (River/Canal) (Status A(1)/NA(0))	Foothpath (Status A(1)/NA(0))
<b>0-3 km Korba tehsil, Korba district, Chhattisgarh</b>											
1	Jambahar	0	0	0	1	0	1	1	1	0	0
2	Rogbahri	0	0	0	1	1	1	1	1	0	0
	<b>Sub Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>0</b>
<b>3-7 km Korba tehsil, Korba district, Chhattisgarh</b>											
3	Sonpuri	0	0	0	1	1	1	1	1	0	0
4	Dondro (Part)	0	0	0	1	1	1	1	1	0	0
5	Bela	0	0	0	0	1	1	1	1	0	0
6	Bhatgaon	0	0	0	1	1	1	0	1	0	0
7	Saraipali	0	0	1	0	0	1	0	0	0	0
8	Dumardih	0	0	0	1	1	0	1	0	0	0
9	Bhulsidih	0	0	0	0	1	1	1	1	1	0
10	Kesala	0	0	0	0	0	1	1	1	0	0
11	Naktikhar	1	1	1	1	1	1	1	1	0	0
<b>Katghora tehsil, Korba district, Chhattisgarh</b>											
12	Barkuta	0	0	0	0	0	1	1	0	0	0
13	Sonpuri	0	0	0	1	1	1	1	1	0	0
	<b>Sub Total</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>6</b>	<b>8</b>	<b>10</b>	<b>9</b>	<b>8</b>	<b>1</b>	<b>0</b>
<b>7-10 km Korba tehsil, Korba district, Chhattisgarh</b>											
14	Aurakachhar	0	0	0	1	1	1	1	1	0	0
15	Chuiya	0	0	0	1	0	0	1	1	0	0
16	Tapra	0	0	0	0	1	1	1	1	0	0
17	Parsakhola	0	0	0	0	1	1	1	1	0	0
18	Godhi	0	0	0	1	1	1	1	1	0	0
19	Kurudih	0	0	0	0	1	1	1	1	0	0
20	Pandripani	0	0	1	1	1	1	1	1	0	0
21	Kudri	0	0	0	0	1	1	1	1	0	0
22	Bendarkona	0	0	0	1	1	1	1	1	0	0
23	Godma	0	0	0	0	0	1	1	1	0	0
24	Bundeli	0	0	0	0	1	1	1	1	0	0
25	Dhengurdih	0	0	1	1	1	1	1	1	1	0
<b>Katghora tehsil, Korba district, Chhattisgarh</b>											
26	Madwamahuwa	0	0	0	0	0	1	0	1	0	0
27	Nawagaon Kalan	0	0	0	0	0	1	1	1	1	0



**Social Impact Assessment for the Proposed Expansion of Aluminium Smelter Production Capacity from 5.75 LTPA to 10.85 LTPA at Risda Village, Korba Tehsil, Korba District Chhattisgarh**

Sr.No	Village Name	National Highway (Status A(1)/NA(0))	State Highway (Status A(1)/NA(0))	Major District Road (Status A(1)/NA(0))	Other District Road (Status A(1)/NA(0))	Black Topped (pucca) Road (Status A(1)/NA(0))	Gravel (kuchha) Roads (Status A(1)/NA(0))	Water Bounded Macadam (Status A(1)/NA(0))	All Weather Road (Status A(1)/NA(0))	Navigable Waterways (River/Canal) (Status A(1)/NA(0))	Foothpath (Status A(1)/NA(0))
28	Jhabu	0	0	0	1	0	1	0	1	1	0
29	Khodri	0	1	1	0	1	1	1	0	0	0
30	Khairbhavna	0	0	0	0	1	1	0	1	1	0
31	Churrail	0	0	0	0	1	1	1	1	0	0
32	Risdi	0	0	0	0	1	1	1	1	0	0
33	Padhnia	0	0	0	0	1	1	1	1	0	0
34	Pali	0	0	0	0	1	1	1	1	0	0
35	Amgaon	0	0	0	0	1	1	0	1	0	0
36	Kanberi	0	0	0	1	1	1	0	1	1	0
37	Ghanadabri	0	0	0	0	0	1	0	0	0	0
38	Japeli	0	0	0	0	0	1	0	0	0	0
39	Bata	0	0	0	0	1	1	0	1	0	0
	<b>Sub Total</b>	0	1	3	8	19	25	18	23	5	0
	<b>Grand Total</b>	<b>1</b>	<b>2</b>	<b>5</b>	<b>16</b>	<b>28</b>	<b>37</b>	<b>29</b>	<b>33</b>	<b>6</b>	<b>0</b>
<b>Source: Census of India 2011</b>											
<b>*Note A(1) = Available, NA(0) = Not Available</b>											