

An Overview of Growth of Steel Industries in Odisha

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EXECUTIVE SUMMERY: Under this study, three aspects have been covered. In the first, focus has given on comprehensively defining the growth of steel industry in the state Odisha. Second, analyzing the employment scenario in steel industries in the state and at last identifying the reasons which are creating hindrances to the growth of steel industries in the region. This is an empirical study where all data has been collected from secondary sources and analyzed by using descriptive statics. Different statistical tools such as mean, percentage are used to calculate data. It is found from the study that until now 49 national and international steel industries have signed their MOUs with the state government to set up their industries. It is only after 2000 more than 95% of industries have signed the MOUs. The employment scenario has not touched the mark because the full phase work has not started by the companies.

ABSTRACT: The state Odisha is located in the eastern part of India and rich in several mineral deposits. This state is the second highest steel producer in the country, which boosts the state economy and fosters the industrialization process. The state has been declared as the major investment region in iron ore by the global and Indian investors. Along with several other factors, high quality of Iron ore in the region has encouraged many national and international steel industries to set up their plants in the state. During the second five years plan, the first effort was made to establish an integrative steel plant in the state, which had given a separate identity to the state as an industrial region. The present regional government is giving remarkable effort to create a cordial and conducive environment for making the state a steel hub in the entire nation. Under this paper an attempt has been made to furnish a clear picture on the status of steel industries in the state i.e. the historical evolution, major regions, enablers encouraging growth of steel industry, opportunities for localities etc. For this purpose, data has been collected from the secondary sources. Descriptive statistical techniques are used to calculate the data.

Key Words: Steel Industries in Odisha, Mega Steel Industry, Employment Status in Steel Industry, and Barriers to Setup Steel Industries

Date of Submission: 02-11-2022

Date of Acceptance: 12-11-2022

I. INTRODUCTION

The state Odisha is located in the eastern part of India and well known for its valuable minerals deposition like high-grade Iron ore, Bauxite, Chromite, Manganese along with some other minerals such as Coal, Limestone, Dolomite, Tin, Nickel, Vanadium, Lead, Graphite, Gold, Gemstone, Diamond, etc. Alone the state has more than 25 per cent of total iron ore in the country, which may be approximately 5132 million tons. At the present scenario Iron ore is regarded as an important and predominant natural resource in the state to boost the state economy and foster the industrialization process. The high-quality Iron ore has encouraged many Multinational and national companies to set up either Iron industry or steel industry or both.

The state came into forefront only after the establishment of an integrated steel plant by the effort of Hindustan Steel Limited (HSL) at Rourkela, Sundargarh. Until 1995, there were only two iron and steel industries in the state. The marginal growth in the setup of the steel industry has been rampant after 2000 onwards. This could happen because of the change in industrial policy by the government along with infrastructural development in the region, and other favourable factors like availability of raw materials, road, port and chief labour cost. Between 2003 to 2007, forty-nine (49) industries had signed an MOU with the government to set up their establishment. Few of those have started operation and few are in the project implementation stage. Some mega industries withdrew their MOU because of some contradictions with the government, agitation by the local people, problems in land acquisition and so on. Some industries are temporarily closed due to the noncompliance of legal aspects. However, as per the data, these industries alone can generate more than one lakh employment in the state. That will help to transfer the socioeconomic status of local people. Solicited information is lagging on providing information in this regard. Therefore, under this study an attempt has been made to furnish clear-cut information about the status of steel industries in the state.

1.2 Objectives

1. To study the growth of steel industry in the state
2. To study the employment status of steel sector in the state
3. To study the setback of steel industry in the state

1.3 Data Collection

Under this study, data has been collected from the secondary sources. The major secondary sources are the web portal of the central and state government on steel, journals, and other published materials.

1.4 Statistical Tools

For this purpose of the study, data has been calculated by using descriptive statistics. Statistical tools like percentage and average are used to calculate data.

II. STEEL INDUSTRIES IN THE STATE UNDER JURISDICTION

Steel industries in the state are performing under the department of steel and mines, government of Odisha. The department has adopted four central legislations such as; the water (Prevention & control of pollution) Act 1974 which was amended in 1988; the Air (Prevention and Pollution) Act, 1981 which was amended in 1987; the Environment (Protection) Act, 1986 amended in 1991; and the forest (conservation) Act, 1980. It has also adopted one policy called **National Mineral Policy** for the above said purpose. Along with the above said legislations and policy the department has also adopted several rules for smooth governance of steel industries.

The Steel and Mines Department is the administrative Department of the Directorate of Mines, the Directorate of Geology, and Orissa Mining Corporation Ltd. in the state. The Steel Directorate was set up on 15th July 2016 under the control of Steel and Mines Department with the intention of successful governance of steel industries. It has four designated positions i.e. Advisory steel, Consultant steel, Consultant MIS, and Data Entry Operator. The directorate of steel carryout activities on addressing issues relating to investment and monitoring for the proper implementation of MOUs, optimal capacity utilization, maintenance of database for investment, production, employment of Iron-ore based industries, supply of raw material and policy formulation etc. It reflects that the regional government has created a conducive environment along with a strong governing body for the expansion of the steel industry. With a pragmatic thought of balancing industrialization and socio-economic growth, the state government is constantly working on proper harnessing of natural resources and maximizing employment. In the year (2001), the state government introduced the IPR (Industrial Policy Resolution) for the large manufacturing and service sector. The IPR encouraged both the private and public mineral value based companies to set up their base in the state. An institutional framework under the title of "Team Orissa" headed by the state chief minister was formulated. The prime concern of this institution is to promulgate industrialization and promote investment in all key areas that facilitate economic growth. To make the industrialization process more rampant Orissa Industrial Facilitation Act 2004, has enacted an objective to provide single window clearance and flexible regulatory framework to the industries. This Act helps investors to start the business in time with clear enthusiasm and save or reduce transport cost. Another higher level authority chaired by chief minister and state level authority chaired by secretary is constituted to examine the various investment proposals and if it is found satisfactory provide clearance to the industry. Two leading organizations i.e. Industrial Promotion and Investment Corporation of Odisha Limited (OPICOL) and Orissa Industrial Infrastructure Development Corporation have been established for providing strong support to the investors.

III. GROWTH OF STEEL INDUSTRY IN ODISHA

Industrial growth in the state started only after independence. Coal mines at IB valley and paper mills at Choudwar and Brajrajnagar are the oldest industries in the state. Whereas, a major mineral based industry i.e. Rourkela Steel Plant, which was set up during the second five year plan, had given mileage to the state and helped in enhancing the industrialization process. The growth of the steel industry has been rampant in the country after a decade of introduction of LPG (liberalization, privatization and globalization) model.

The first integrated steel industry in the state is Rourkela Steel Plant (RSP) of HSL (Hindustan Steel Limited). It is the first integrated public sector steel plant in the country and was proposed during the second five years plan. This was established in the year 1955 by the support of the German government and the initial installed capacity of 1 million ton per annum. In 1974, HSL became Steel Authority of India Limited (SAIL). Since that period, SAIL has governed RSP. In addition to RSP, the state has also made MOUs with NINL (National Ispat Nigam Limited), and MESCO before 2000. Along with these, in the last 20 years other 49 national and international steel industries have signed MOUs to set up their establishment in the state. Most of the MOUs were carried-out during the years 2003-06 (Details are shown in table 1). From these, 10 industries are under project implementation stage, 4 industries have withdrawn their proposal due to certain under privileged circumstances (details shown in table 4). Two major players like ARCELORMITTAL India Limited and POSCO with a proposed investment of ₹ 40,000.00 Cr. and ₹ 51,000.00 Cr. respectively withdrew their MOUs. This has raised many questions regarding the prevailing environment for the large-scale industries. However, the state could keep the bilateral MOUs with Eight (8) such major industries till date (Details are given in table 2). Out of these mega industries, few are under project implementation stage. In addition to RSP seven other major industries i.e. TATA Steel Ltd., M/S ESSAR Steel, M/S Jindal Steel and Power, and M/S Bhusan Steel Ltd, The SSL Energy Limited, Uttam Galva Steel Limited, and Welspun Power & Steel Ltd. have made MOUs to invested more than ₹ 5000.00 Cr. each for production.

Sl.No.	Districts	Number of Projects
1	Angul	2
2	Cuttack	4
3	Dhenkanal	7
4	Jajpur	5
5	Ganjam	1
6	Jagatsinghpur	1
7	Jharsuguda	7
8	Keonjhar	10
9	Sambalpur	5
10	Sundargarh	5
		Total= 47

Source: Secondary Source develop for this research

Table I: It depicts the districts for steel production in the state. It reveals that among 30 districts steel is produced in ten (10) districts of the state. All the steel plants and some sponge iron industries are situated in these regions. The above data shows that most companies i.e. ten (10) have preferred Keonjhar to set up their industries whereas Jagatsinghpur and Ganjam have the lowest number of projects i.e. one (1) in each district. Four companies have made MOUs to set up their establishments in more than one district. Welspun Power & Steel Ltd. has made MOU to set up its two plants in Cuttack & Jajpur, Rungta Mines Ltd. has made MOU to setup plants in Sundargarh & Dhenkanal, Jindal Steel & Power Ltd. has made MOU to setup its plant in Jajpur & Angul, and Brahmani River Pallets Ltd. has made MOU to setup its plant in Keonjhar & Jajpur.

A report was published by Orissa Steel and Minerals departmental depicting the status of steel industries in Odisha till July 2017. Table 2 shows the companies who have signed their MOUs with the state to establish their plant.

Table II: List of Signed MOU Steel Companies in Odisha

Sl.No.	Company / Project	Location	MOU Capacity in MTPA	Investment as perMOU in Cr	Year of MOU
1	Aarti Steels Ltd.	Cuttack Ghantikhal, Athagarh	0.50	886.00	2003
2	Action Ispat & Power(P) Ltd.	Jharsuguda Pandiripathar and Marakuta	0.25	270.00	2004
3	Adhunik Metaliks Ltd.	Sundargarh Chadrihariharpur, Rourkela	0.41	400.00	2003
4	Amtek Metal & Mining Ltd.	Cuttack Tangi	2.00	15,820.00	2010
5	Aryan Ispat & Power Pvt. Ltd.	Sambalpur Bomaloi, Rengali	0.30	393.14	2004
6	Atha Mines Private Ltd.	Dhenkanal Tarkebeda	0.25	291.60	2008
7	Bhushan Steel Ltd.	Dhenkanal Meramandali	6.00	5828.15	2005
8	Bhushan Power & Steel Ltd.	Jharsuguda, Telkai	2.80	5,828.15	2002
9	Brand Steel & Power Pvt. Ltd.	Keonjhar Palaspanga	0.27	307.54	2005
10	Brg Iron & Steel Co. Pvt. Ltd.	Dhenkanal Kurunti	0.26	228.05	2005
11	Brahmani River Pallets Ltd.	Keonjhar & Jajpur Barbil/Duburi	4.00	1,485.00	2007
12	Concast Steel & Power Ltd.	Jharsuguda Kukurjanga, Badmal	0.29	210.00	2004
13	Crackers India (Alloys) Ltd.	Keonjhar Gobardhanpur	0.25	236.39	2006
14	Deepak Steel & Power Ltd.	Keonjhar Topdihi, Barbil	0.25	195.31	2005
15	Deomines & Minerals Private Ltd.	Sundargarh Bonai	0.33	316.00	2003
16	Thakur Prasad Sao & Sons Pvt. Ltd. Unit-Iv	Jharsuguda Lahandabud	0.25	254.00	2005
17	Jai Balaji Jyoti Steels Ltd.	Sundargarh Tanisar, Near Lathikata	0.33	321.14	2005
18	Essar Steel India Ltd.	Jagasinghpur Paradeep	4.00	1000.00	2005
19	Jain Steel & Power Ltd.	Jharsuguda Duriaga	0.30	251.77	2005
20	Jindal Stainless Ltd.	Jajpur Duburi, Kalinganagar	1.60	6,628.00	2005
21	Jindal Steel & Power Lt.d.	Deojhar, Keonjhar and Steel Plant at Angul	6.00	13,135.00	2005
22	Maheswari Ispat Private Ltd.	Cuttack Khutuni, Rampei	0.25	210.00	2004
23	Maithan Ispat Ltd.	Jajpur Duburi, Kalinganagar	0.27	335.25	2004
24	Mgm Minerals Ltd.	Dhenkanal Nimidhia, Motonga	0.25	208.10	2006
25	Monnent Ispat & Energy Ltd.	Angul Nisa	0.25	181.09	2004

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26	MSP Metallicks Ltd.	Jharsuguda Marakuta	0.26	260.59	2004
27	Narbheram Power & Steel Pvt. Ltd. (Formerly Scaw Ind. Pvt. Ltd.)	Dhenkanal Gundichapara	0.80	824.00	2003
28	OCL Iron & Steel Ltd.	Sundargarh Rajgangpur	0.25	204.21	2004
29	Orion Ispat Ltd.	Sambalpur, Lapanga,	0.98		2002
30	Orissa Sponge Iron & Steel Ltd.	Keonjhar Palaspanga	1.00	1,137.00	2004
31	Patnaik Steels & Alloys Ltd.	Keonjhar Purunapani, Joda	0.27	337.42	2005
32	Rathi Steel & Power Ltd.	Sambalpur Potapalli, Sikridi	0.30	272.85	2005
33	Rungta Mines Ltd.	Sundargarh Kamando near Koira, and Jharband Dhenkanal	2.00	2,275.00	2005
34	Shri Jagannath Steels & Power Ltd. (Formerly Beekay Steels And Power Ltd.)	Keonjhar Uliburu, Barbil	0.28	319.80	2005
35	Shyam Metalics & Energy Ltd.	Sambalpur Pandoloi, Rengali	0.27	224.71	2004
36	SMC Power Generation Ltd.	Jharsuguda Hirma	0.40	455.00	2003
37	Sree Metaliks Ltd.	Keonjhar Loidapara, Barbil	0.25	190.44	2004
38	SSL Enegy Ltd.	Ganjam Parlur	3.00	8609.00	2006
39	Surendra Minings Industries Pvt. Ltd.	Sundargarh Barahamusa, Bonai	0.25	221.62	2006
40	Tata Steel Ltd.	Jajpur Duburi, Kalinganagar	6.00	15,400.00	2004
41	Tecton Ispat Private Ltd.	Dhenkanal Tarakabeda	0.25	227.13	2008
42	Uttam Galva Steel Ltd.(M)	Keonjhar Palasponge	3.00	8987.00	2006
43	Viraj Steel & Energy Pvt. Ltd.	Sambalpur Pandaloi, Gurupali	0.30	207.00	2005
44	Visa Steel Ltd.	Jajpur Duburi, kalinganagar	1.00	345.78	2003
45	Welspun Power & Steel Ltd. (M)	Cuttack Tangi Choudwar of Cuttack and Darpani of Jajpur	3.00	6103.80	2006

Source: Secondary sources, developed for this research

The table II shows that between 2002 to 2010 forty-five (45) steel companies signed MOUs with the state government to produce steel in the state.

In 2002, two (2) Companies i.e. Bhusana Power & Steel, and Orion Steel Ltd. had made MOU to establish their plant at Jharsuguda and Sambalpur with an estimation of production capacity of 2.80 MTPA and 0.98 MTPA respectively. Bhusana Power & Steel plant at Sambalpur was taken over by TATA in 2018.

In 2003 six (6) companies i.e. Visa Steel Ltd., SMC Power Generation Ltd, Narbheram Power & Steel Pvt. Ltd., Deomines & Minerals Private Ltd., Adhunik Metaliks Ltd., and Aarti Steels Ltd. signed MOUs to

establish their plants at various districts like Jajpur, Jharsuguda, Dhenkanal, Sundargarh, and Cuttack. Two companies, Deomines & Minerals Private Ltd., Adhunik Metaliks Ltd. proposed to set up their plant in Sundargarh district. In 2004, twelve (12) companies i.e. TATA Steel Ltd., Sree Metaliks Ltd., Shyam Metalics And Energy Ltd., Orissa Sponge Iron & Steel Ltd., OCL Iron And Steel Ltd., MSP Metallicks Ltd., Monnent Ispat & Energy Ltd., Maithan Ispat Ltd., Maheswari Ispat Private Ltd., Concast Steel & Power Ltd., Aryan Ispat & Power Pvt. Ltd., And Action Ispat & Power (P) Ltd. have made MOUs with the government to set up their establishment in various districts of the state.

In 2005, fourteen (14) companies i.e. Viraj Steel & Energy Pvt. Ltd., Shri Jagannath Steels & Power Ltd., Rungta Mines Ltd., Rathi Steel & Power Ltd., Patnaik Steels & Alloys Ltd., Jindal Steel & Power Ltd., Jindal Stainless Ltd., Jain Steel & Power Ltd., Jai Balaji Jyoti Steels Ltd., Essar Steel India Ltd., Thakur Prasad Sao & Sons Pvt. Ltd., Deepak Steel & Power Ltd., BRG Iron & Steel Co. Pvt. Ltd., Brand Steel & Power Pvt. Ltd., and Bhushan Steel Ltd. signed MOUs with the state government to establish their industries in various districts of Odisha. Jindal company had made an agreement to establish two industries in Angul and Jajpur districts.

In 2006, six (6) companies i.e. Welspun Power & Steel Ltd., The Uttam Galva Steel Ltd., The Surendra Minings Industries (P) Ltd., The SSL Energy Ltd., Crackers India (Alloys) Ltd., And MGM Minerals Ltd., signed MOUs with the state government to set up their establishment in the state.

In 2007, Brahmani River Pallets Ltd. signed an MOU with the state government to establish two steel plants in Jajpur and Keonjhar districts. In 2008, two (2) industries Tecton Ispat Private Ltd., and Atha Mines Private Ltd. signed MOUs with the state government to set up their plants in Dhenkanal districts. In 2010, Amtek Metal & Mining Ltd. company signed an MOU with the state government to set up a plant at Cuttack.

The table also reflects that out of the forty-five companies 26 companies have made MOUs to invest 0-500 Cr., Nine (9) companies to invest 501-1000 Cr., Two (2) companies to invest 1001 to 1500 Cr., and Ten (10) companies to invest more than 1500 Cr. for production.

A report was published in Orissa Steel and Minerals departmental website describing the current status of steel industries of Odisha till July 2017. The report reveals that along with RSP seven other major industries signed MOUs for setting up their plants in different locations. The details are explained below.

Sl. No.	Name of the Company	Location	Capacity per MOU in (MTPA)		Investment Rs. in Crore (as per MOU)	Year of MOU
1.	RSP	Rourkela	4.2			1955
2.	M/S TATA Steel ltd.	Kalinga Nagar, Duburi, Jajpur	1st module	3.00	1,400.00	2004
			2nd module	3.00	5,000.00	
3	M/S Jindal Steel & Power Ltd.	Angul	6.00		13,135.02	2005
4	M/S Essar Steel Ltd.	Jagatsinghpur Paradeep	4.00		10,721.00	2005
5	M/S Bhusan Steel Ltd.	Meramundali, Dhenkanal	3.00		5828.15	2005
6	SSL Enegy Ltd.	Ganjam Parlur	3.00		8609.00	2006
7	Uttam Galva Steel Ltd.	Keonjhar Palasponge	3.00		8987.00	2006
8	Welspun Power & Steel Ltd.	Cuttack Tangi Choudwar of Cuttack and Darpani of Jajpur	3.00		6103.80	2006

Source: Secondary source developed for this research

Table no (III) describes, ESSAR Ltd. has started its pallet plant but steel production has not started yet. As per the MOU four (4) industries production capacity is 0 to 3 metric ton per annum (MTPA) and remaining four (4) industries capacity of production is between 3 to 6 MTPA. The table depicts that industry whose capacity of production \geq three (3) MTPA is categorised as mega steel project in the state.

Apart from RSP, other seven companies signed MOUs in 2004, 2005, and 2006. In 2004 TATA company made an MOU with the local government that it will set up plants at Jajpur, Kalinganagar and Duburi in two modules. In both modules, the targeted production will be three (3) MTPA but investment will differ. In the first module, the investment target is 14,000.00 Cr. and in the second module, the investment target is 5,000.00 Cr. In the year 2005, three (3) mega companies i.e. Jindal Steel & Power, ESSAR Steel, and Bhusana Steel Limited did their MOUs with the government to set up a steel plant. Their targeted production was 6.00, 4.00, and 3.00 MTPA respectively. Jindal Steel and Power had undersigned to set up its establishment at Angul, ESSAR Steel in Paradeep (Jagatsinghpur), and Bhusana Steel Limited at Meramundali, (Dhenkanal). In 2006,

other three (3) industries i.e. SSL Energy Limited, Uttam Galve Steel Limited, and Welspun Power & Steel Limited signed MOUs with the government to set up their plants in the state. All these three (3) industries are in the project implementation stage.

Sl.No.	Company / Projects	Location	MOU Capacity in MTPA	Investment as per MOU in Cr	Year
1	Amtek Metal & Mining Ltd.	Cuttack Tangi	2.00	15,820.00	2010
2	Atha Mines Private Ltd.	Dhenkanal Tarkebeda	0.25	291.60	2008
3	Deomines & Minerals Private Ltd.	Sundargarh Bonai	0.33	316.00	2003
4	Konark Ispat Ltd.	Jharsuguda Hirma	0.25	196.50	2005
5	Monnent Ispat & Energy Ltd.	Angul Nisa	0.25	181.09	2004
6	Pradhan Steel and Power Private Ltd.	Cuttack Athagarh, Dhurusia	0.50	606.00	2008
7	SSL Enegy Ltd.	Ganjam Parlur	3.00	8609.00	2006
8	Tecton Ispat Private Ltd.	Dhenkanal Tarakabeda	0.25	227.13	2008
9	Uttam Galva Steel Ltd.	Keonjhar Palasponge	3.00	8987.00	2006
10	Welspun Power & Steel Ltd.	Cuttack Tangi Choudwar & Darpani of Jajpur	3.00	6103.80	2006

Source: Secondary source developed for this research

The above table depicts that ten (10) companies are in project implementation stage in different locations. Three (3) companies i.e. Welspun Power & Steel Ltd., Pradhan Steel & Power Private Ltd., and Amtek Metal & Mining Ltd. are situated at Cuttack. Two companies i.e. Tecton Ispat Private Ltd., and Atha Mines Private Ltd. are situated in Dhenkanal. Other five companies i.e. Uttam Galva Steel Ltd., SSL Enegy Ltd., Monnent Ispat & Energy Ltd., Konark Ispat Ltd., Deomines & Minerals Private Ltd. are situated in Keonjhar, Ganjam, Angul, Jharsuguda, and Sundargarh districts of Odisha respectively. All the companies annual capacity of production fall between 0-3 MTPA. The above data shows that six (6) industries i.e. Tecton Ispat Private Ltd., Pradhan Steel & Power Private Ltd., Monnent Ispat & Energy Ltd., Konark Ispat Ltd., Deomines & Minerals Private Ltd., And Atha Mines Private Ltd. production capacity is 0-1 MTPA, One (1) industry i.e. Amtek Metal & Mining Ltd. production capacity is 2 MTPA, and three industries i.e. Welspun Power & Steel Ltd., Uttam Galva Steel Ltd., SSL Enegy Ltd. production capacity is 2-3 MTPA each. From the investment point of view five (5) companies i.e. Tecton Ispat Private Ltd., Monnent Ispat & Energy Ltd., Konark Ispat Ltd., Deomines & Minerals Private Ltd., Atha Mines Private Ltd. investment capacity is 0-500 Cr., four (4) companies i.e. Welspun Power & Steel Ltd., Uttam Galva Steel Ltd., SSL Enegy Ltd., and Pradhan Steel & Power Private Ltd. investment capacity is between 500 – 1000 Cr., and only One (1) industry i.e. Amtek Metal & Mining Ltd. investment capacity is above than 1500 Cr. The table also depicts that three mega steel companies are already in their project implementation stage.

Sl.No.	Company Types	Direct		Indirect		Total
		Within State	Outside State	Within State	Outside State	
1	Steel MOU	19,441	12,017	48,728	15,670	95,856
2	Steel Non-MOU	3,344	559	3,427	352	7,682
		No data by RSP				15,761
	Total Steel (Non-MOU)					23,443
Grand Total Steel Industries		22,785	12,576	52,155	16,085	1,19,299

Source: Secondary source developed for this research

Table (V) reveals that these steel industries will generate huge employment in the state. This will include the local, national and international workforce. The table states that this industry will provide direct employment to 19,441 employees within the state, and hire 12,017 employees from outside the state. The indirect employment within the state will be 48,728 employees and outside the state will be 15,670 employees. In such a way the MOUs steel plants will provide approximately 95,856 thousand employment and Non-MOU plants will provide 23,443 employment in total. It is only the RSP plant which has not shown its employment structure in detail but the report says that RSP has a sum total of 15, 761 employees.

IV. SETBACK TO STEEL INDUSTRIES IN ODISHA

Sl.No.	Company/Project	Location	Mou Capacity in MTPA	Investment as per MOU in Cr	Year of MOU
1	Arcelormittal India Ltd.	Keonjhar Patna Tahasil	12.00	40,000.00	2006
2	Maharashtra Seamless Ltd.	Jajpur Duburi, Kalinganagar	0.48	450.00	2004
3	POSCO	Jagasinghpur Paradeep	12.00	51,000.00	2005
4	Sterlite Iron & Steel Company Ltd.	Keonjhar Palashpanga	5.00	12,502.00	2004

Source: Secondary source developed for this research

From the above table it is derived that four (4) industries have withdrawn their project from the state. Two industries Arcelormittal India Limited and POSCO the two giant steel producers whose investment target was 40,000.00 Cr. and 51,000.00 Cr. respectively withdrawn their MOUs. However, the exact causes are not known but different sources define that POSCO withdrew its MOU because of land acquisition issues. But the company argued that as the company was denied captive iron ore mines it has withdrawn its MOU. On the other hand the local government argued that the MOU canceled with POSCO because of two reasons. First, the company was reduced to pay for land to the Industrial Infrastructure Development Corporation and second the company did not utilize the land allotted to it within the stipulated time. Arcelor Mittal India Limited withdrew its MOU because of inordinate delays, problems in land acquisition and in securing iron ore linkages. Data reflects that in a sum the proposed investment of these two industries was 34.31% more than the rest of mega steel projects. Sterlite, a Vedanta group firm withdrew its MOU because of problems in land acquisition. The state water department denied the sale of land to the company. The department argued that 90 per cent of project area came under the irrigated farmland, and these lands are the only source of bread and butter for the localities. Therefore, the land could not be handed over to the company. As a result the company signed off its MOU. Maharashtra Seamless Limited, a Jindal group company, also withdrew its MOU because of problems in land acquisition and forest clearance.

Sl.No.	Company / Project	Year of MOU	Year of Closing
1	Action Ispat & Power(P) Ltd.	2004	2016
2	Deepak Steel & Power Ltd.	2005	2014
3	Jain Steel & Power Ltd.	2005	2012
4	Maheswari Ispat Private Ltd.	2004	2011
5	MSP Metallicks Ltd.	2004	2016
6	Orissa Sponge Iron & Steel Ltd.	2004	2012
7	Rathi Steel & Power Ltd.	2005	2014
8	Thakur Prasad Sao & Sons Pvt. Ltd.	2005	2015
9	Concast Steel & Power Ltd.	2004	2017
10	Sree Metaliks Ltd.	2004	2017
11	Orion Ispat Ltd.	2002	2011

Source: Secondary source developed for this research

The table VII shows that between 2011-2017 eleven (11) industries temporarily closed because of their inefficiencies to produce the targeted output. In 2011 two (2) industries, in 2012 two (2) industries, in 2014 two (2) industries, in 2015 one (1) industries, in 2016 two (2) industries, and in 2017 two (2) industries are temporarily closed.

The above two tables i.e. table no VI & VII define that steel industries in the state are facing constraints to set up their establishments. Some issues that create obstruction are land acquisition, mines lease, opposition by the localities, and government regulations. Therefore, 9% of the industries which had made MOUs withdrew their MOUs and 20% industries have temporarily stopped their production.

V. CONCLUSION

Odisha has a greater potential to expand its steel production to a large extent. A cordial relationship between government and industries, and some win-win policies are required for bringing steel revolution in the state. Vast reservoir of natural resources, strong transport networks, ports, chief labour cost, eleven (11) rivers and a large sea coast has created an industry friendly environment to set up numbers of establishments. Awareness among people and flexible administrative support can remove all barriers for the growth of steel industries in the state. If this could be achieved then this will attract other steel supported industries to set up their establishments. Therefore, concern and care must be taken for the furtherance of steel industries in the region.

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