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RESEARCH ARTICLE

EXPANSION, PROSPECTIVE AND CHALLENGES OF STEEL INDUSTRY: A STUDY IN KALINGA NAGAR INDUSTRIAL COMPLEX IN ODISHA

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ABSTRACT

The Indian market has a huge growth potential in terms of steel consumption since few decades. The production volume and quality has been increased drastically after the paradigm shift of modernisation and globalisation. Govt. Of India also started producing steel by establishing Rourkela Steel Plant which is one of the pioneering units of the Steel Authority of India Limited (SAIL). Other private steel sectors established in Jajpur, Kalinga nagar like, NINL,VISA, ROHIT, JINDAL, TATA etc. The steel industries at Kalinga Nagar Industrial Complex, Jajpur Odisha has made a rapid growth on tough fundamentals over the last decade. The industry is getting all indispensable ingredients required for a vibrant growth. The Government of Odisha is supporting the production of steel through encouraging industrial reforms, while the private sector is backing it with investments worth billions of rupees. Even in the hard-hitting times of economic meltdown, the industry succeeded to uphold its positive growth momentum on the strong basics of household demand from infrastructure, automobile and construction sectors. The region has become a reputed name in the Indian steel industry with an impressive track record. Global steel giants from all over the world have shown their interest in the industry because of its exceptional performance. Odisha is the most favourite foreign direct investment destination for investors across India- Associated Chambers of Commerce and Industry of India (ASSOCHEM). This further signifies the flexibility and strength of the steel industry in Odisha against external risk factors. This paper presents the overall scenario of steel industry as well as Production, consumption and growth of steel industry at Kalinga Nagar Industrial Complex, Odisha. In the second part; the authors have made an attempt to highlight the Trends in production, growth and potential of Crude Steel in private/public sector in Odisha. In the final surface of this paper; the author concludes with the challenges and opportunities of steel industries at Kalinga Nagar Industrial Complex, Odisha.

INTRODUCTION

Although there are evidences in indicating that iron and steel have been used by men for almost 6000 years, the modern form of iron and steel industry came into being only during the 19th century. Indian history is also full of references to the usage of iron and steel. But India's percapita consumption of steel is one of the lowest in the world. As per the National steel policy, 2005, the growth in steel sectors has been anticipated to reach 100 million tonnes by 2019-20 from a level of 38 million tonnes at the initial phase. To keep up to this target, the Government of India is actively encouraging steel consumption in global market so that the steel industry acts as the locomotive for the overall economic growth of the country. In addition, the country's rich mineral resources, governance, policies and availability of skilled labour make it an attractive destination for investment. On the other hand, India will be able to derive huge benefits in terms of GDP growth, employment generation, revenues and FDI inflow. In addition, the existing and new projects of steel at Kalinga nagar, Odisha will proffer mutual cooperation and amity between India and international market.

The demand of steel product will be increased in the global market once there will be a proper vision of the global requirement in terms of product, feature, price, quality, logistics etc. This is a challenge for Kalinga nagar steel industries. This paper has tried to through some light on the prospects, challenges and potential of steel sector in Odisha, at Kalinga nagar.

Objectives of the Study

The following objectives have been framed by keeping in view of the relevance of the study in the present situation.

- To present the scenario of steel industry at kalinga Nagar industrial Complex as well as the production, growth, potential and consumption of steel industry in Odisha.
- To study the trends in production of Crude Steel in private and public sector in India.
- To highlights the challenges and opportunities of Steel Industry at Kalinga Nagar Industrial Complex, Jajpur, Odisha.

Source of data collection

The study is based on the data collected from secondary sources of steel industries' manual, bi-annual and annual

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reports of company, journals, websites and published materials in the form of books.

Steel industry: global scenario

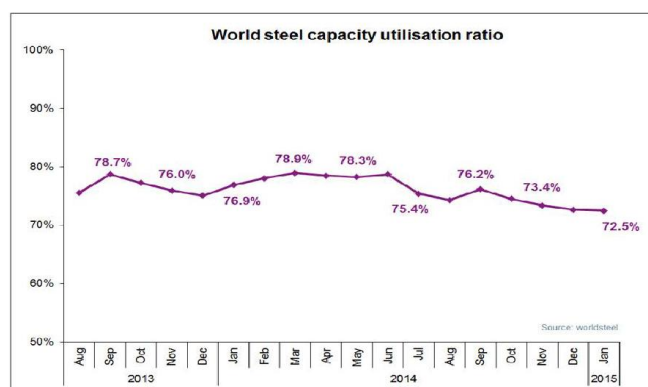
The current global steel industry is in its downstream position in comparing to last decades. The price has been decreasing continuously. But the demand expectations for steel products will rapidly grow for coming years. The shares of steel industries are also in a medium pace. The steel industry enjoyed its 9th consecutive years of growth in supply and demand from 2003 to 2012. And there was many merger and acquisitions which overall sustained the industry and showed some good results. The supreme crisis has lead to the recession in economy of different countries, which may lead to have a negative effect on whole steel industry started from the mid of 2013 and may continue in coming years. However steel production and consumption will be supported by continuous economic growth.

Table 1.1. Global crude steel production (*000tons)

Sl.no	Region /Country	Jan 2015	Jan 2014	% change Jan 15/14
1	Asia	89423	93053	-3.9
	a. China	65500(e)	68727	-4.7
	b. India	7070(e)	7047	.3
	c. Japan	9030	9397	-4.0
	d. South Korea	5780(e)	6087	-5.0
	e. Taiwan(China)	2050	1797	14.2
2	European Union	14446	14608	-1.1
3	Other Europe	2790	3075	-9.3
4	C.I.S	8526	8801	-3.1
5	North America	10000	10136	-1.3
6	South America	3881	3634	6.8
7	Africa	1280	1320	-3.0
8	Middle East	2316	2047	13.1
9	Oceania	439	416	5.7
	Total 65 country*	133102	137090	-2.9

Source:- World Steel Association/media centre/press releases

* - the 65 countries included in this table accounted for approximately 98% of total world crude steel production in 2014, e - estimated



Source-worldsteel.org

World crude steel production for the 65 countries reporting to the world steel was 133 million tonnes (Mt) in January 2015, a -2.9% decrease compared to January 2014. China's crude steel production for January 2015 was 65.5 Mt, a decrease of -4.7% compared to January 2014. Elsewhere in Asia, Japan produced 9.0 Mt of crude steel in January 2015, a decrease of -4.0% compared to January 2014. However India's total crude steel production for Jan 2015 was 7.07 Mt, an increase of .3% compared to Jan 2014.

Global crude steel utilization

The crude steel capacity utilisation ratio for the 65 countries in January 2015 was 72.5%. It is -4.4 percentage points lower than January 2014. Compared to December 2014, it is -0.4 percentage points lower.

Production, consumption and growth of steel industry in India

Over time, with further opening up of the Indian economy, a focused reform process in place and a rapid but stable growth of the Indian economy, investments have flown significantly into the steel industry of the country and the country is likely to achieve a crude steel production capacity of 140-149 mt by the year 2016-17 as per estimates of the report of the working group on steel for the 12 th Five Year Plan. Major investment plans are in the States of Orissa, Jharkhand, Karnataka, Chhattisgarh and West Bengal. Global steel giants have also announced plans to set up integrated steel plants in the country either through setting up of green-field integrated steel plants in the country or strategic tie-ups, which is expected to introduce state-of-the-art technology into steel making.

a) Total Finished Steel Production for Sale

The production for sale of total finished steel (alloy+non-alloy) in the country was 87.67 million tonnes (mt) in 2013-14 as compared to 68.62 mt in 2010-11.

Year	Main Producers	Majors and Other Producers	Grand Total
2010-2011	18.407	50.214	68.621
2011-2012	17.978	57.718	75.696
2012-2013	19.244	62.437	81.681
2013-2014	22.196	65.479	87.675

Source- Joint Plant Committee(JPC)

(b) Pig Iron Production

The total production for sale of pig iron was 7.95 mt in 2013-14 as compared to 5.68 mt in 2010-11. Earlier, pig iron was produced primarily by the integrated public sector steel plants, SAIL and RINL.

Production for sale of Pig Iron (million tonnes)			
Year	Main Producers	Majors & Other Producers	Grand Total
2010-2011	0.579	5.104	5.683
2011-2012	0.502	4.869	5.371
2012-2013	0.674	6.196	6.870
2013-2014	0.552	7.398	7.950

Source - JPC

Production for sale of Sponge Iron (million tonnes)		
Year	Production for sale	% change over last year
2010-2011	25.081	4.2%
2011-2012	19.633	(-) 21.7%
2012-2013	14.329	(-) 27%
2013-2014	18.204	27%
April-December 2014-2015*	13.276	(-) 1.0

Source: JPC

(c) DRI - Production for sale

The production for sale of DRI has increased from 1.31 mt in 1991-92 to 18.20 mt in 2013-14. India is the largest producer of DRI in the world since 2003.

Import and export of iron and steel

Import

Import of Iron and Steel ('000 tonnes)		
Year	Pig Iron	Total Finished Steel (Non-Alloy + Alloy)
2010-2011	9	6664
2011-2012	8	6863
2012-2013	21	7925
2013-2014	34	5450
April-December 2014-2015*	18	6492

Source : JPC *provisional

Although India started exporting steel way back in 1964, exports were not regulated and depended largely on domestic surpluses. However, in the years following economic liberalisation, export of steel recorded a quantum jump. Subsequently, the rapid growth of domestic steel demand has led to a decline in the rate of growth of steel exports from India to ensure that domestic requirements are adequately met.

Export

Export of Iron and Steel ('000 tonnes)			
Year	Pig Iron	Total Finished Steel (Alloy+Non-Alloy)	Total Steel*
2010-2011	358	3637	3987
2011-2012	491	4588	4789
2012-2013	414	5368	5512
2013-2014	943	5985	6471
April-December 2014-2015*	385	4068	4400

Source: JPC;*=Provisional

In Odisha

Orissa Steel is an emerging sector that will supplement the industrial sphere of Orissa. The developing industries producing steel will dominate the economy of the state. The presence of raw materials in abundance in the region has resulted in attracting the big investors to the region. In the year 2004, the Government of Orissa had received 40 proposals for establishing steel plants in Orissa. The large scale steel enterprises have opted to invest in the state of Orissa. The state mines about 58 percent of iron ore which is an important raw material for making steel. Orissa has deposits of the other raw materials required for the production of steel in substantial quantities. The state also has a ready market for the steel products. Labor and electricity in the state are cheap which account for a low cost of production. The infrastructure of the state is also well developed that facilitates the industrial sector. These factors have lured the reputed steel companies of the country to invest in the state. The industries have proposed a 75 million tonne installed capacity which would include an investment of 198,149 crore of the Indian currency. The industrial sector of Orissa also hopes to gain from foreign investments in the region.

Steel Industry at Kalinga Nagar Industrial Complex

Sl No.	Name of the Company	Product Type	Total capacity in Mt.	Power generation In MWH	Proposed (Rs. In Cr)	Investment
1	NINL	Hotmetal	1.1	62.5	4000	
2	VISA Steel Ltd.	Steel	.225	75		345.78
3	Rohit Ferro Tech	Ferro Manganese	.5	25		
4	MESCO	Pig Iron	.5	.25		
5	Jindal Stainless Ltd.	Stainless Steel	3.5	125x2		6628.00
6	Tata Steel Ltd.	Steel	3+3			15400.00
7	MAL Industries Ltd.(Maithan Ispat Ltd.)	Steel	.5	25		335.00

The government will also benefit from the investment into the steel sector earning a heavy revenue every year. The state exchequer is also estimated to earn 250 crores per annum from the steel industries in Orissa.

Challenges and opportunities

Challenges

Compared to the global average per capita consumption of 225.2 kgs, India's per capita consumption of steel is still a simply 57.8 kgs. per head. Even by Asian standards India have a long way to go in the consumption of steel. Technologically, the main hurdles before steel industry at Kalinga Nagar Industrial Complex are the cost of power and non availability of metallurgical coke.

Unbalance prices

Falling of demand, domestic saturation and falling prices in the last 2 years have hit steel makers at Odisha. Expecting the periodic rise in demand in the recent months, it has suffered from unremunerative prices to the level that companies have been finding it difficult to maintain investment costs.

Common shortage

These are natural in the quality and availability of some of the essential raw materials available in Odisha, e.g. high ash content of coking coal adversely affecting the productive efficiency of iron-making and is generally imported. Advantage of high Fe content of indigenous ore is often neutralized by high basic index. Besides, certain key ingredients of steel making, e.g., nickel, ferromolybdenum are also unavailable in Odisha.

Universal shortage

However, most of the weaknesses of the steel industry at Kalinga Nagar Industrial Complex can be classified as universal shortage. Some of these are described here.

High cost of capital

Steel is a capital intensive industry; steel companies in India are charged an interest rate of around 14% on capital as compared to 2.4% in Japan and 6.4% in USA.

Low labour productivity

In Odisha, the advantages of cheap labour gets offset by low labour productivity; eg, at comparable capacities labour productivity of SAIL and TISCO is 75 t/man year and 100 t/man year, for POSCO, Korea and NIPPON, Japan the values are 1345 t/man year and 980 t/man year.

High cost of basic inputs and services

The electricity, eg, cost of electricity is 3 cents in the USA as compared to 10 cents in India; and freight cost from Jamshedpur to Mumbai is \$50/tonne compared to only \$34 from Rotterdam to Mumbai. Added to this are poor quality and ever increasing prices of coking and non-coking coal.

Other deficiencies include

- Poor quality of basic infrastructure like road, building, etc
- Lack of expenditure in research and development.
- Delay in adoption in technology by existing units.
- Low quality of steel and steel products.
- Non availability of facilities to produce various shapes and qualities of finished steel on-demand such as steel for automobile sector, parallel flange light weight beams, coated sheets etc.
- High level excise.

Opportunities

The largest prospects before steel sector is that there is huge scope for increasing consumption of steel in almost all sectors in Odisha. Odisha has rich mineral resources. It has large quantity of iron ore, coal and many other raw materials required for iron and steel making. It has the second largest coal reserves (65 billion tonnes) after Jharkhand. Therefore, many raw materials are available at moderately lower costs. Considering quality of workforce, steel industry at Kalinga Nagar Industrial Complex has low unit labour cost, commensurate with skill. This gets reflected in the lower production cost of steel in Odisha compared to other states.

Unexplored rural market

The rural sector of Odisha remains fairly unexposed to their versatile use of steel. The rural market was recognized as a potential area of significant steel consumption. However, forceful steps were not taken to penetrate this segment. Increasing applications in rural areas assumes a much greater import now for increasing per capital consumption of steel. The usage of steel in cost effective manner is possible in the area of infrastructures, fencing, roads, structures and other possible applications where steel can substitute other materials which not only could bring about compensation to users but is also desirable for conservation of forest capital.

Other sectors

Outstanding potential exist for increase in steel consumption in other sectors such as engineering, packaging, automobile, irrigation, power and water supply in India. New steel products developed to improve performance simplify manufacturing/installation and reliability is needed to enhance steel consumption in these sectors Main objective here have to

be improvement of quality for value addition in use, requirement of less material by reducing the weight and thickness and finally reduction in overall cost for the end user. Latest technology must be adopted by steel manufacturers of Kalinga nagar industrial complex for manufacture of greater quality of steel for these applications. For example, furnishings, electric appliances, pre-coated sheets can be used in manufacture of appliances and public transport vehicles. Production and supply of superior marks of steel in desired size and shapes will certainly increase the steel consumption as this will reduce fabrication need; there by reduce cost of using steel.

Export market

As it is estimated that world steel consumption will double in next 20 years. Quality improvement of steel industries combined with its low cost advantages will positively help in significant gain in foreign market.

Conclusion

The steel industry at kalinga nagar industrial complex is among the upcoming industries of the Odisha. It has a number of bauxites, iron ores, coals which means that it has ample of resources from which to draw its raw material. The rate of production of steel at kalinga nagar has been going up at a firm rate in the last few years. In the recent times Kalinga Nagar have been identified as the potential steel destinations of Orissa. There are also a number of steel companies in India like Tata Steel and Vedanta, POSCO that are either established themselves or coming up have as prominent forces in the India steel scenario.

Odisha has usually been considered as one of the top steel manufacturer of the Nation. In 2004 it was ranked as the seventh largest producers of steel in the world, which is testimony to the standing of the Indian steel industry of the world. India is also supposed to have the best growth potential in the context of steel and is preceded only by China, which is a prominent steel producing and consuming country of the world. According to the Ministry of Steel, India is expected to become the second largest producer of crude steel in the world by 2019-20.

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