

International Journal of Innovative Research in Science, Engineering and Technology

| Impact Factor: 5.442 | A Monthly Peer Reviewed & Referred Journal |

Vol. 4, Issue 3, March 2015

SWOT Analysis of Mining Industry of Rajasthan

Dr. Rajni Sharma

Associate Professor, Department of Economics, Government M.S. College for Women, Bikaner, Rajasthan, India

ABSTRACT: The mineral sector occupies a unique position in the economy with its appreciable contribution in industrial production, employment generation and foreign exchange earnings. Mining sector in Rajasthan is another pre-eminent sector next to Agriculture. The state is a semi-arid region with low productivity and has low socio-economic profile. In such state of affairs, the mineral potentiality of the state has raised the state's economy to a considerable extent. Rajasthan ranks first in the country, accounting for 30 per cent of national production. Rajasthan is the second largest producer of glass and ceramic raw materials and leading producer of feldspar. Rajasthan is the second largest producer of clay and silica.

KEYWORDS- Rajasthan, mineral, mining, foreign exchange, economy

I. INTRODUCTION

Minerals and mining sector contribute significantly to the economic growth and development of a region in various forms. The socio-economic development is directly related to the availability and utilization of its mineral resources. The mineral sector occupies a unique position in the economy with its appreciable contribution in industrial production, employment generation and foreign exchange earnings. However the GDP contribution of the mining industry varies from 2.2% to 2.5% only but going by the GDP of the total industrial sector it contributes around 10% to 11%. Even mining done on small scale contributes 6% to the entire cost of mineral production. Mining Industry in Rajasthan provides job opportunities to around 0.38 million individuals DMGR, 2013). [1]

Importance of Minerals in Economy of Rajasthan

Mining sector in Rajasthan is another pre-eminent sector next to Agriculture. The state is a semi-arid region with low productivity and has low socio-economic profile. In such state of affairs, the mineral potentiality of the state has raised the state's economy to a considerable extent.[2] The state has a glorious heritage in the field of mines and minerals. It is the biggest museum of mineral wealth in the country (Vaish, A.K. et al., 1999). As per estimates of GSDP contribution by industrial sector, the growth observed in mining sector is 9.65 percent in the year 2008-09. (Economic Review 2009-10) [3]

S.No.	Mineral	% of India's Production	S.No.	Mineral	% of India's Production
1	Wollastonite	100	9	Lead concentrate	85
2	Jasper	100	10	Rock Phosphate	75
3	Zinc concentrate	99	11	Ball clay	71
4	Fluorite	96	12	Calcite	70

International Journal of Innovative Research in Science, Engineering and Technology

| Impact Factor: 5.442 | A Monthly Peer Reviewed & Referred Journal |

Vol. 4, Issue 3, March 2015

5	Gypsum	94	13	Sandstone	70
6	Marble	90	14	Flaggy limestone	70
7	Asbestos	84	15	Feldspar	70
8	Soapstone	87			
Source: DMG,Rajasthan					

Presently, about 40 varieties of major minerals and 18 varieties of minor minerals are being produced in the State. There are 3,030 mining leases for major minerals and 11,868 minor leases and 18,341 quarry licenses exist in the State.

The mineral sector of Rajasthan has grown steadily since independence and has contributed crores of rupees in the form of revenue to the government exchequer. In 1950-51 the revenue earned from minerals was only 48.03 lac rupees which increased tremendously up to Rs.306.14 crores in 1998-99. The revenue augmented to Rs.1220.36 crores in 2007-08 and in the year 2012-13 the revenue received is Rs. 266683.47 crores (Table 1.2), this significant rise in mineral revenue is due to exploration of new minerals and new mineral policy according to which private sector (both national and international) has been given the opportunity to exploit those minerals which were exclusively reserved earlier for the public sector only. Apart from this, there are other factors also which have been responsible for the tremendous rise in mineral production and mineral revenue such as development of infrastructure, adoption of modern techniques of exploration and mining, encouragement of value addition of minerals through promotion of mineral based industries in the state, adequate training programme for the availability of man power, making of rules and regulation more liberal towards mining leases and quarry licenses. Due to all these efforts made by the government not only the revenue and the production increased but it also gave a rise in employment opportunities. In 1950-51 the total production was merely 2029 thousand tonnes that bounced in next 50 years to 97239 thousand tonnes during 2000-01 and further increased to 384818.19 thousand tonnes in 2012-13. In the last ten years mineral market has achieved a good uptrend in the sale value as well. During 1950-51 the value of mineral production was 356 lac rupees, after 50 years this amount shot up to 181529 lac rupees in 2000-01 and in 2012-13 it was tremendously high at 1385553.26 lac rupees (Table 1.2). The labour employment has also enhanced in last 58 years. It was only 32250 persons in 1950-51 which rose to 302485 persons in 2012-13 but due to mechanization, the labour employment opportunities almost constant in last one decade¹⁰ (Mineral Directory of Rajasthan, DMG, Rajasthan, 2008).[4]

S.No.	Item	Status In (1950-51)	Present Status (2012-13)
1	Number of Minerals Produced		
	A. Major Minerals	15	40
	B. Minor Minerals	6	18
2	Number of Mineral Concessions		
	A. Major Minerals	50	3030
	B. Minor Minerals	195	11868
3	Mineral Production (in 000 tones)	2029	384818.19
4	Revenue from Minerals (in lac rupees)	48.02	26668347.08
5	Sale Value(lac rupees)	356	1385553.26
6	Employment (Number)	32250	302485
Source: Mineral Directory of Rajasthan, DMG, Rajasthan, 2013			

International Journal of Innovative Research in Science, Engineering and Technology

| Impact Factor: 5.442 | A Monthly Peer Reviewed & Referred Journal |

Vol. 4, Issue 3, March 2015

Major and Minor Minerals of Rajasthan:

The state is rich in minerals, with a virtual monopoly in the production of 25 minerals including zinc, lead, and calcite in the country. The state has 20 per cent of major minerals being worked in India, and ranks fifth in terms of value of major mineral production. In case of minor minerals, Rajasthan ranks first in the country, accounting for 30 per cent of national production. Rajasthan is the second largest producer of glass and ceramic raw materials and leading producer of feldspar. Rajasthan is the second largest producer of clay and silica. It is also a store-house of 70% of the country's non-ferrous metallic minerals. It is producing 90% of the country's copper and zinc. In fact, Rajasthan is one of the largest producers of cement in the country, accounting for over 15 per cent of national production. There are about 40 major and 18 minor minerals (Table 2.9). This sector provides direct and indirect employment to about three million mine workers throughout the state.

Table 3 : List of Major and Minor Minerals in Rajasthan (2012-2013)					
A. Major Minerals					
S.N.	Mineral	S.N	Mineral	S.N	Mineral
1	Copper	14	Selenite	27	Emerald Crude
2	Gold	15	Epidote	28	Ochres
3	Iron Ore	16	Feldspar	29	Phyrophyllite
4	Quartz	17	Fire Clay	30	Lead Zinc(ROM)
5	Manganese	18	Fluorite	31	Rock-Phosphate
6	Silver	19	Mica	32	Garnet (Abr. & Cr.)
7	Asbestos	20	Graphite	33	Silica Sand
8	Ball Clay	21	Gypsum	34	Siliceous Earth
9	Barytes	22	Jasper	35	Sillimanite
10	Cadmium	23	Kyanite	36	Soap Stone
11	Calcite	24	Lignite	37	Vermiculite
12	China Clay	25	Limestone	38	Wollastonite
13	Dolomite	26	Magnesite	39	Natural Gas
				40	Petroleum
B. Minor Minerals					
1	Bentonite	8	Rhyolite	15	Limestone (Burning)
2	Brick Earth	9	Sandstone		Limestone (Dimensional)
3	Chert	10	Marble	16	Salt Petre
4	Chips Powder	11	Quartzite	17	Serpentinite
5	Fuller's Earth	12	Mill Stone	18	Slate Stone
6	Granite	13	Murrum		
7	Kankar Bajari	14	Pattli Katla		
Source: DMG,Rajasthan					

The State has the largest number of small mining leases in the country. Presently 3106 mining leases of major minerals covering mining area of about 98710.9 hectares in the state, 11758 mining leases of minor minerals and 19251 quarry licenses are in force covering 39863.8 hectare area in the state. In terms of the total value of India's mineral

International Journal of Innovative Research in Science, Engineering and Technology

| Impact Factor: 5.442 | A Monthly Peer Reviewed & Referred Journal |

Vol. 4, Issue 3, March 2015

production in the country, the State contributes 5.74% of the total production with 859442.68 thousand tones of major mineral worth of Rs. 3033725.61 lac and 2154527.57 thousand tones of minor minerals worth of Rs 4676265.02 lacs. Total production of Rajasthan is 3013970.25 thousand tones worth of Rs 49819.92264 lac in the year 2012-13 and occupies the 5th position after Bihar (13.09%), Madhya Pradesh (9.68), Gujarat (8.55%), and Assam (7.3%). The Revenue earn from this mineral production in the year is about 492192594.22 thousand rupees. The share of revenue of major mineral is Rs. 92070712.17 and the share of minor mineral is Rs. 61603945.57.

Mining industry provides ample employment opportunities to the people of various strata of the society. Total number of employment provided by the mining industry in Rajasthan is about 5424794 persons in the main occupation and this number may be quite large if we include the figure of the persons employed in the ancillary industries related to transportation, consumers and trading etc. It may not be wrong that after Agriculture mining industry is the largest employment provider in the state.

In the mining industry, Mining of Minor minerals provide an employment to about 4929847 people in the state, while the share of employment provided by the mining of Major mineral is 494947 persons in the year 2012-13.[5]

A SWOT Analysis of Mining Industry of Rajasthan

Strengths:

- The government offers a wide range of concessions to investors in Rajasthan, engaged in mining activity. The main concessions include, inter alia:
- Mining in specified backward districts is eligible for a complete tax holiday for a period of 5 years from commencement of production and a 30 percent tax holiday for 5 years thereafter.
- Environment protection equipment, pollution control equipment, energy saving equipment and certain other equipment eligible for 100 percent depreciation.
- One tenth of the expenditure on prospecting or extracting or production of certain minerals during five years ending with the first year of commercial production is allowed as a deduction from the total income.
- Export profits from specified minerals and ores are eligible for certain concessions under the Income tax Act.
- Minerals in their finished form exempt from excise duty.
- Easy availability of labour
- Large quantity of high quality reserves

Weakness:

- Mining in Rajasthan is associated with poor employee productivity. The output per miner per annum in Rajasthan varies from 150 to 2,650 tonnes.
- Historically, opencast mining has been favored over underground mining. This has led to land degradation, environmental pollution and reduced quality of ores as it tends to get mixed with other matter;
- Rajasthan has still not been able to develop a comprehensive solution to deal with the fly ash generated at Thermal power stations through use of Indian coal. Clean coal technologies, are available, but these are expensive and need modification to suit Indian coal specifications.
- Poor infrastructure facilities

International Journal of Innovative Research in Science, Engineering and Technology

| Impact Factor: 5.442 | A Monthly Peer Reviewed & Referred Journal |

Vol. 4, Issue 3, March 2015

- Mining technology is outdated
- Low innovation capabilities
- Labor force is highly un-skilled and inexperienced
- Lack of R&D programs and training and development
- There is a lack of respect for the mining industry and it suffers from the incorrect perception that ore deposits are depleted.
- There is limited access to capital, and mines are increasingly more costly to find, acquire, develop and produce.
- There are long lead times on production decisions.
- The mining industry suffers from an out-dated, unattractive approach to mining education that is partly to blame for insufficient human resources.
- Mining operations are not environment friendly. Least importance is given to environment concerns.
- High rate of illegal mining

The Opportunities

Rajasthan has a large amount of mineral reserves remaining to be exploited.

- Potential areas for exploration ventures include gold, copper, lead, zinc, nickel, cobalt, molybdenum, lithium, tin, tungsten, silver, Uranium, platinum group of metals and other rare metals and fertilizer minerals.
- The main opportunities in the mining sector are in the development and production of surplus commodities such as mica, potash, few low-grade ores, mining of small gold deposits, mining known deposits of economic and marginal categories such as base metals.
- Considerable potential exists for setting up manufacturing units for value added products.
- There exists considerable opportunities for future discoveries of sub-surface deposits with the application of modern techniques.
- Current economic mining practices are generally limited to depths of 300 meters and 25 percent of the reserves are beyond this depth
- **Strengthening of logistics** - In Rajasthan, the logistics infrastructure are overburdened and costly and act as bottlenecks in development of free market. Special freight corridors would raise speeds, cut costs, and increase the system's reliability.
- **Focusing on technology for future** -. The Government may get improved recoveries on its investment by concentrating on few important technology areas.

Threats:

- **Foreign Investment in the Mining Sector** -During 1999, the Government had cleared 7 more proposals of leading international mining companies for prospecting and exploration in the mineral sector in the Rajasthan.
- Large integrated international metal manufacturers including POSCO, Mittal Steel and Alcan have announced plans for expansion in Rajasthan
- Mining companies and equipment suppliers are under the constant threat of being taken over by foreign companies.
- A heavy tax burden discourages further investment.
- Politicians undervalue the industry's contributions to the economy.
- Stricter environment rules restricting mining activities. [6]

International Journal of Innovative Research in Science, Engineering and Technology

| Impact Factor: 5.442 | A Monthly Peer Reviewed & Referred Journal |

Vol. 4, Issue 3, March 2015

REFERENCES

1. Chatterjee, K.K. (1991): An introduction to Mineral Economics, Prentice Hall, Kolkatta, pp. 25-26.
2. Mineral Policy (1994): Department of Geology, Govt. of Raj. in Rajasthan Mineral Bulletin vol. 18, pp-29.
3. Shishir Sharma & Suman Sagar (2002): Mineral Resources of Rajasthan Desert in Advances in Resource Management of the Indian Desert Eds. BBS Kapoor et al. pp.1-18.
4. Mehta, D.S. (1999).The changing Scenario of Western Rajasthan through Mineral Development. In Geological Evolution of N-W India. (B.S. Paliwal Ed.) pp. 129-148.
5. T E R I. (2001): Overview of Mining and Mineral Industry in India, New Delhi: Tata Energy Research Institute.[T E R I Project Report No. 2001EE42], pp. 94
6. http://www.planning.rajasthan.gov.in/Eleventh%20Plan/Chapter/PDF/Chap_17_Mineral.pdf