

Challenges of Quartz and Feldspar Pulverizing Industry of Beawar



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Abstract

Beawar has been a major producer of pulverized quartz and feldspar. Quartz and feldspar pulverizing units are concentrated in and around Beawar city. Despite the favourable conditions, the industry is facing slow down for last few years. The observational study was planned to analyze the problems presented to the industry. Primary and secondary data was collected by field surveys and interaction with different stakeholders. Government reports and media articles were studied. We found out that the mineral processing industry of Beawar is under tremendous strain. The demand of pulverized mineral powder is decreasing as the unprocessed raw quartz and feldspar mineral is directly being exported to advanced mineral processing plants installed in ceramic areas of Gujarat in recent years. We have discussed the initiatives taken by the Government and needs for the sustainable development of the industry in detail.

Keywords: Quartz; Feldspar; Ball Mill; Mineral Pulverizing Industry; Export of Raw Mineral.

Introduction

Beawar has been an industrial town since its establishment. The city has been famous for its cotton industry, asbestos cement pipe manufacturing, and tilpatti. Presently it is renowned for its quartz and feldspar pulverizing industry. There are more than 600 quartz and feldspar pulverizing mills in and around Beawar and the industry was growing at a steady pace for last few decades. But for last few years there has been slowdown, once the leading producer of quartz and feldspar mineral powder Beawar is facing many problems for survival and existence. More than 100 units have been closed so far. There has not been any systematic study on pulverizing industry of Beawar so the present study was planned.

Objective of the Study

The present observational study was planned to know about the various challenges presented to the quartz and feldspar pulverizing industry of Beawar and to identify the future scopes for the sustainable development of industry.

Hypothesis

We intended to test the following hypothesis

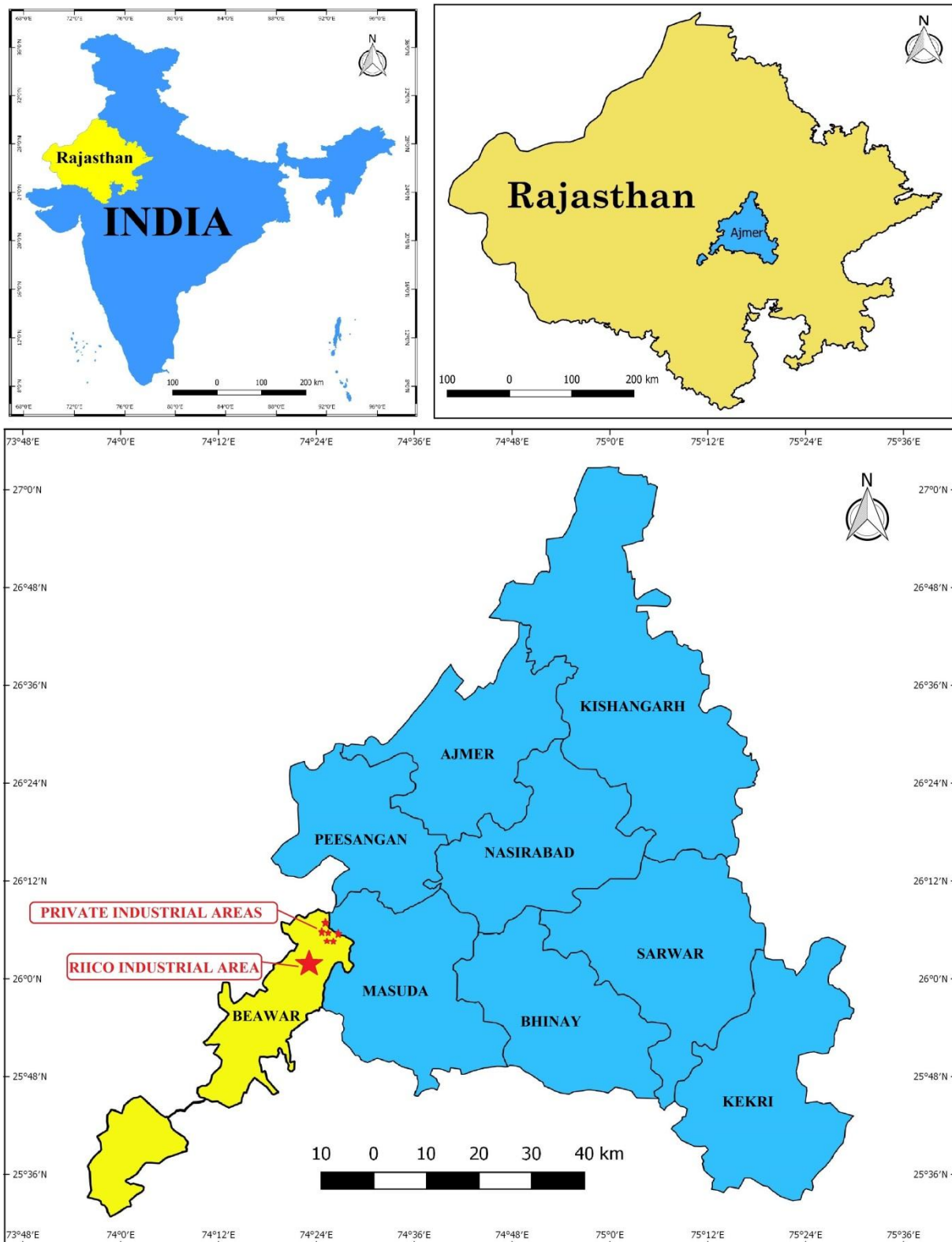
H₀₁: The quartz and feldspar pulverizing industry of Beawar is not facing any major problem.

Study Area

The study area includes the Beawar sub-district located in Ajmer district in Rajasthan, India. It is located 26°10' North Latitude and 74°32' East Longitude and it is situated at elevation of 453 meters above sea level. (Figure 1)

Shrinkhla Ek Shodhparak Vaicharik Patrika

Figure 1: Ajmer District Map Indicating the Industrial Areas of Beawar Tehsil



Research Design and Methodology

The observational study was based on interaction with the stakeholders of the pulverizing industry of Beawar. They were interviewed about the working of the industry and the problems faced by them and possible steps for future prospects and sustainable development. Primary information was collected as purposive sampling. We talked with ball mill owners, managers, and workers. The office bearers of Laghu Udhog Sangh Beawar and marketing agents were also approached. Secondary data regarding the mining and pulverizing mills of quartz and feldspar was collected through Government and non-Government reports/ articles printed in newspapers and published over internet.

Review of Literature

Ajmer district is a major producer of Feldspar, high grade Quartz is also being mined. The total production of Feldspar in Rajasthan for 2016-17 was 56.11 lakh ton out of which 13.86 lakh ton was mined in Ajmer district. Similarly total production of Quartz in Rajasthan was 15 lakh ton in 2016-17, out of which 17935 ton was mined in Ajmer district. The mines of these minerals are concentrated in Beawar, Nasirabad, Kekri and Kishangarh tehsil. (Department of Mines and Geology, Udaipur)

The development of quartz and feldspar pulverizing industry of Beawar dates back to the year 1965-66. The pioneer was M/s Golccha Palawat. With the passage of time some more units joined the business and in between the period 1974-1990 there were 20 enterprises producing quartz and feldspar powder in Beawar. The next 13 years period (1991-2003) witnessed a gradual growth and the total reached to 100 units mark (Khicha 2007). In last 15 years first there was exponential growth which gradually stabilized and presently there are more than 600 pulverizing units functioning in and around Beawar. Initially the pulverizing units were concentrated in RIICO industrial area of Beawar but later on private industrial areas also developed in outskirts of Beawar.

There are different association of mill owners working for welfare of the industry namely, Laghu Udhog Sangh, Beawar the oldest association of industrial owners; Laghu Udhog Mandal, Beawar; RIICO Industrial Association, Beawar; Piplaj Mineral Pulverizing Association; Rajasthan Ball Mill Association. District Industry Center (DIC) Ajmer and sub center Beawar, Rajasthan Industrial Investment and Infrastructure Corporation (RIICO), Rajasthan Finance Corporation Beawar, Micro, Small & Medium Enterprises-Development Institute (MSME-DI) Jaipur and different cooperative/ industrial banks helped in establishment of mineral pulverizing units in and around Beawar.

The quartz and feldspar industry of Beawar mainly caters the needs of domestic Indian markets; the share of international export is negligible. The processed mineral powder is utilized in ceramic, sanitary ware and glass manufacturing units of Morbi in Gujarat and Ghiloth, Neemrana, in Rajasthan. Mehta P *et al.* (2015) studied challenges in International trade of minerals from south Rajasthan.

They concluded that the biggest challenge today the entrepreneurs are facing in the export business was delay in payment from overseas buyers and distributors. Non awareness of foreign trade rules & regulations, inadequate infrastructure, complexity of export documentation requirement, the risk of selling abroad, insufficient support provided by the Government and lack of professionalism of firms were other identified reasons.

We visited DIC sub center Beawar, offices of different industrial association and Udhog Sanghs. There we enquired about the quartz and feldspar pulverizing industry profile, structure, location and approximate number of mills, raw material and markets. We screened the geo spatial distribution of the industrial areas on Google map and Rajdharaa (web based Geo Portal of Rajasthan). Then we roam around and surveyed in RIICO industrial area of Beawar and private industrial areas of Piplaj and Ranisagar. We observed the infrastructure of these areas, plant set-ups and working of different ball mills, hammer mill, crusher, cyclone and screening chambers. We interacted with lots of workers and mill owners. It was felt in first two visits that the industry persons are not open to discuss various issues in detail. They were afraid that any disclosure may land them trouble with Department of environment and Pollution Control Board, the workers were also worried of losing their job. So we changed our approach to be paper and camera free. We explained the purpose of our study to the members of Laghu Udhog Sangh and discussed the working and problems of the industry in detail. They arranged our meetings with mill owners and workers.

Observations

The industry occupies more than 90% of available industrial areas in and around Beawar. We calculated that there are 127 industrial units in RIICO industrial area Beawar, 225 in Piplaj and 192 in Ranisagar. In addition to these, there are 50- 75 units scattered in small groups in nearby villages. So we calculated that there are more than 600 units in and around Beawar. After discussion with different stakeholders we observed that the structure of quartz and feldspar mineral pulverizing industry of Beawar can be categorized as:

Category 1 (Mill owners)

Those are small entrepreneur who have one or two pulverizing plants in one setting. Their maximum production capacity ranges from 6000 to 12000 metric ton per annum. Maximum numbers of pulverizing mills are of this type. The investment by this category establishments ranges in 25 to 60 lakhs and each unit provide direct employment to 6-10 persons.

Category 2 (Established Entrepreneur)

These are well settled in industry for decades, having multiple units and multiple setups. New establishment of fully automated larger plants having mechanized functioning, they include mechanical separator, hammer mills, ball mills, and pulverizers in single set-up. These units require large areas and investment in the range of 2.5 to 3 crore.

Their output varies 30000 to 45000 Metric ton per annum.

Category 3

This group comprised of dealers, merchants, traders and marketing agents. They are having there well established offices in the industrial areas often in association of category 2 units. They are mainly involved in large volume dealing with buyers. They act as a middle person between the mine lease holders and mill owners for providing the raw material at one end and between the mill owners and buyers for sailing of processed mineral powder.

Category 4

In this category there are suppliers and manufactures of machineries of different ball mills, hammer mills, pulverizers, screens and conveyer system. All these plants are manufactured locally at Beawar. There are more than 14 machine manufactures in the industrial areas. They also cater the need of the other parts of state as well as neighboring states.

Category 5

Ancillary industry workers which include ball mill manufacturing, service and repairing workers, local transport and handlers (tractor/JCB drivers, owners, maintenance and repair persons), large trucks and trailer service providers and maintenance workers, masonry workers, electricians, bag makers, and local catering service provider (hotels/ dhabas/ tea stalls) etc. A number of persons are involved in various office works such as the brokers, record keepers, computer operators, bank staff, insurance agents etc.

Most of the pulverizing units are in single firm having one or two pulverizing mills and belong to category one. There is no specific background of entrepreneurs. They come from different backgrounds and the investment is in the form of secondary business. Though the industry does not require any technical knowledge but these small investors are dependent on type 3 and 4 category persons from the very beginning of establishment of mill to getting the raw material and finally selling of finished product.

The final product of pulverizing industry of Beawar is mineral powder of different mesh sizes and of different grades which is primarily used in Glass and Ceramic Industry. Most of the units are small isolated units. The end product is provided and sold through the dealers, merchants and marketing agents. The end products are not consumed locally, more than 75% processed mineral is sold to ceramic plants of Gujarat located in and around Morbi, rest is consumed at ceramic and glass industry of Ghiloth near Neemrana in Rajasthan. Majority of selling is through the well-established traders who obtained high volume orders and distribute the job among the pulverizing units. Total processing capacity of the industry of Beawar is approximately 60 lakh metric ton per annum. The industry provides direct employment to 7500-9000 persons.

After discussing with different stakeholders and analyzing the various news articles we observed that the pulverizing industry of Beawar is facing lots of problems. We identified that-

1. There is huge mismatch in available raw mineral, demand of processed mineral powder and installed mineral production capacity of industrial units. In last ten years the numbers of processing units were steadily increased. The total production of raw quartz and feldspar mineral of Ajmer district was 14,04,661 metric ton in 2016-17. (District wise report Minor Minerals 2016-17) The total installed capacity of mineral processing in Beawar up to July 2018 was more than 60 lakh metric ton per annum. So there is huge gap in raw mineral production and total processing capacity installed.
2. Though the raw material is in abundance in and around Beawar but the consistency of the supply and quality of raw material varies. The availability of raw material and demand of processed mineral powder is needed to be matched. Larger units and big entrepreneurs are having contacts and agreements at both ends for raw material as well as for processed mineral powder. But most of the smaller units are dependent on intermediate persons for both i. e. obtaining the raw material as well as selling of final product.
3. More than 75% of the processed mineral powder from the pulverizing mills of Beawar is consumed by the ceramic industries of Gujarat situated in Morbi. There are around 600 ceramic factories with production worth Rs. 4,000 crores annually. Now the industrialists of Gujarat are importing pulverizing ball mills plants from China. The plants are of large processing capacity and are based on advanced automotive technology so can be operated by few persons only. These plants are based on wet pulverizing technology and require large quantity of water. The yield of these plant is of good quality as wet pulverizing and flotation technique give superior quality end product of uniform consistency decreasing the inter batch differences of end product. The wet pulverizing helps in removing the impurities from the mineral and the end products are of superior quality for ceramic and glass industry. These units are more environmental friendly. (District industrial potentiality survey report of Morbi district 2016-17)
4. Gujarat is an industrialist friendly state. The Government of Gujarat provides adequate water for these plants. The rates of electricity are lower and cheap petroleum gas is available. The natural gas for heating is required in glass and ceramic industry. There is well established ceramic hub at Morbi. The industrialists of Gujarat are easily establishing the pulverizing plants at Gujarat due to all these facilities. On the contrary the units at Beawar are smaller, low volume capacity and based on dry pulverizing technique.
5. Now in last few years these large capacity plants are directly importing the raw quartz and feldspar mineral from the mines of Rajasthan. Their mill owner has obtained leases of the mines directly or through the partnership and they are carrying unprocessed raw minerals directly to large

mineral processing plants of Gujarat. The good quality mineral is being directly transported to the processing plants of Gujarat as it is well connected with National Highways. The transport is also cheaper as the ports of Gujarat are '*import based ports*' and most of the trucks and trailers going to Gujarat are forced to 'go empty' so the onwards fare is lower.

So there is this fear that huge export of the raw material could cause a rapid depletion of the natural resource for local consumption. Due to these reasons the industry is facing slow down and majority of factory owners are facing difficulty in running their mills to full potential, and a considerable units are shut down. The mineral pulverizing units are micro industries having no strong inter and intra-firm relationship. These people are not having control on market price of processed mineral powder as all commands of pricing are in the hands of traders and buyers, so most of the smaller unit holders are just doing the job work of pulverizing the raw material provided by the traders and have to split the profit with the intermediate traders/agents. So their profit margin is very narrow and they are the most vulnerable and affected in difficult market conditions.

There is huge investment by industrialists and different financial agencies. One small unit now requires about 50 lakhs Rs. whereas investment in large plants can go up to 3 crore Rs. Total investment in mineral processing units of Beawar is estimated to be more than 350 crore Rs. The industrialists are facing financial difficulties in operating and maintaining the mills, paying the electricity bills and the installments of loan. There is risk of bankruptcy and financial loss to industrialist and funding agencies as most of the loan is non-recoverable and most of the installed equipments are of no other use.

This recent trend shift forcing the shutdown of industrial units. The establishment of new units is totally ceased and the works of under development units are stopped due to fear. There will be huge loss of employment as these units are providing direct employment to 8 to 10 persons per unit. So in Beawar alone 7500 to 10000 people will lose their work and livelihood.

1. Poor infrastructure in industrial areas: the condition of roads is very poor especially in private industrial areas. The availability of water is also a big concern. The industry is demanding that the funds of District Mineral Foundation Trust (DMFT) should also be utilized in mineral processing unit area as the workers in these units are facing the maximum risk for health hazards and doing the 'dirty job'. They are also generating a lot of revenue, so they demand better infrastructure facilities.
2. Mill owners are also under constant threat and pressure for sudden inspections by the authorities of pollution control boards for the compliances of Environmental laws.
3. Mill workers also demand revision of minimal basic pay and risk allowances.

Social Awareness and Unity

The workers and mill owners were raising their concern to the Government of Rajasthan at different level for past few years. The representative of the industry met the Chief Minister (CM) of Rajasthan in April 2018 and handed over a memorandum on the problems they were facing and requested for early interventions and ban on export of raw mineral. The memorandum stated that the mineral pulverizing industry of Beawar and Rajasthan is in great danger due to export of raw mineral outside the state. The export of raw feldspar mineral has created shortage of raw mineral and has decreased demand of processed mineral powder. So they were forced to shutdown of half of the mineral processing units, rest were not working to full capacity. Industrialists were not getting proper refunds; due to revenue shortage they were not able to pay their electricity bills. The Hon'ble CM of Rajasthan has taken their request seriously and instructed the officers for needful action. On 30th July representatives of the industry met the Chief Secretary of Rajasthan and got assurance for implementation by 4th August 2018.

As no action was taken, agitation and protest started in Beawar and supported by other industrial areas of Ajmer district and neighboring districts of Bhilwara and Rajsamand, which later spread across the State.

In a form to show their protest to Govt. of Rajasthan, Rajasthan Mineral Udhog Sangh office-bearers met the Managing director (MD) of Ajmer Vidhyut Vitaran Nigam Limited (AVVNL) with hundreds of people working in mineral processing plants of Beawar on 17th September 2018. They included the office-bearers of different Udhog Sanghs, owners of ball mills, managers, workers and laborers. The representatives were not only from Beawar but from eight districts including Ajmer, Sikar, Bhilwara, Udaipur, Rajsamand, Dungarpur, Banswara and Nagaur. They further want to submit the applications to disconnect 1500 power connections of pulverizing mills and plants to show their anger and protest to Government of Rajasthan. The MD of AVVNL then talked with Principal Secretary Industries Rajasthan and reported the matter. On this the Principal Secretary organized a meeting with the representatives of Rajasthan Mineral Udhog Sangh on 18th September 2018 at State Secretariat Jaipur.

Similarly a hunger protest and demonstration were organized in Rajsamand by the ball mill owners and labourers. On 22nd September 2018 mill owners in Nasirabad (Bewanja industrial area) and Kishangarh (Silora and Udaipurkalan industrial Areas) also shut their mills in support of the protest.

On 24th September 2018, Beawar Laghu Udhog Sangh with all its quorum of 51 members and office bearers discussed the seriousness of the issue and submitted a memorandum to Honorable CM of Rajasthan through the SDM of Beawar. The rally included representative of stake holders of each and every category mill owners, machine operators, workshop owners, plastic bag suppliers, transporters and labourers in huge number.

So we reject the hypothesis that the quartz and feldspar pulverizing industry of Beawar is not facing any major problem. The industry is facing major challenges and requires strong support from the Government to sustain.

Needs for Sustainable Development of Industry

1. The adoptions of more environment friendly and advanced processing techniques are required. The ceramic and glass industry need high grade mineral powder with minimum impurities. The consistency of the quality should also be similar in different batches and match world class standards. The up gradation of industry standard requires funding and incentives from the Government.
2. Establishment of research and development center at Beawar for innovations of techniques to be incorporated in existing plants and training of men power is also required.
3. Ceramic Hub: Mineral pulverizing units of Beawar have been acting as intermediary units of glass, ceramic tiles and sanitary ware industries and no process innovation or product line change has been innovated till date. There are no such industries in nearby region and most of the mineral powder is supplied to the ceramic units of Morbi, Gujarat and Ghiloth, Rajasthan. The demand for establishment of ceramic hub near Beawar is being raised at different levels for many years.
4. Major constrains in value chain addition and establishment of ceramic hub as identified by DIC Ajmer (sub center) are lack of water in Beawar sub division, non-availability of liquidified petroleum/ natural gas line for heating and lack of skilled men power for production of ceramic products.

Steps taken by the Government of Rajasthan and Central Government

1. The Government of Rajasthan is making efforts to boost up the pulverizing industry. There are 5000 mines of quartz and feldspar lumps. The state government of Rajasthan has banned the export of raw feldspar minerals outside Rajasthan for three years on 5th October 2018 after the strong agitation of mill owners. The decision is welcomed by all industrialist organizations of Rajasthan. The state government also banned the transport of raw quartz and feldspar produce from the mines in open transport. The Gazette notification has been issued by Department of Mines.
2. The Central Government has announced that the MSME exporter will get the subsidy of 5% on loan taken before and even after the export of the products. The central Govt. revised the subsidy to 3 to 5% on pre and post shipment loan. The sectors provide maximum number of employment. The scheme for exporter is termed as Interest equalization scheme and is for manufacturer only.
3. The inspection of MSME industry will be based on computerized random allotment. The inspector should submit the report within 48 hrs. It will help

in curbing the corruption and prevent the inspectors. Now the inspectors cannot torture the industrialist on their free will, they have to submit the reason for inspection.

4. The central government further eases the environmental rules to make them more realistic. Now the factory owners need to obtain single environmental clearance for water and air pollution. The number of returns for eight labour laws and 10 central rules are reduced to one per annum.
5. The Government of Rajasthan (through its undertaking RIICO Ltd) has identified the location for proposed ceramic hub at Village Sathana in Tehsil Bijaynagar, District Ajmer, Rajasthan. The total plot area of the industrial park is 80.805 Ha. There are 10 industrial plots in the proposed industrial park. The proposed site is approximately 50 Kms from the Beawar.

Conclusion

Mineral pulverizing units of Beawar has been acting as intermediary units of glass, ceramic tiles and sanitary ware industries and no process innovation or product line change has been innovated till date. Though the Government has banned the export of feldspar, it will only provide temporary relief to the industry. Steps must be taken to bring up ancillary industries in the region otherwise these industries would rust down and will be shut.

Most of the industrial areas are occupied by the mineral pulverizing units. Closure of these units will make these areas deserted and all the investment made for establishment of these areas will be lost, similarly most of the machinery installed in these plants are not suitable for other industrial use and will ultimately need to be disposed in scrap. There will also be direct and indirect financial losses to the state of Rajasthan due to decreased cash flow in the industrial areas; loss of employment, royalty, taxes, toll collection, and loss of electricity revenue.

Suggestions

1. Set up of 'Ceramic Hub' nearby Beawar is urgently required for optimum utilization of processed mineral powder. Other ancillary industries should also be promoted.
2. Infrastructure facilities in the industrial areas should be improved. The benefits of DMFT should be extended to mineral processing areas.
3. A 'Mineral Trade Center' should be established in Beawar for raw mineral and processed mineral powder.
4. The export of raw mineral to Gujarat and other states should be controlled.

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