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**OBJECTIVES** 

**HYPOTHESES** 

**RESEARCH METHODOLOGY** 

**RESULTS & DISCUSSION** 

**FINDINGS** 

RECOMMENDATIONS/SUGGESTIONS

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SCOPE FOR FURTHER RESEARCH

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Sharma T., Kwatra, G. (2008) Effectiveness of Social Advertising: A Study of Selected Campaigns, Corporate Social Responsibility, Edited by David Crowther & Nicholas Capaldi, Ashgate Research Companion to Corporate Social Responsibility, Chapter 15, pp 287-303.

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### PROBLEMS OF GRANITE INDUSTRY IN CHITTOOR DISTRICT

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### **ABSTRACT**

The granite industry is appropriately regarded as a backbone of Indian economy. The Granite Industry Constitutes a significant sector of the Mineral based industries in Indian economy in terms of its involvement to the country's industrial production, investment, employment and creation of industrial base. The article highlights the significance of the mineral based industries and their role in the economic reforms on growth of granite industry. India accounts for 30 per cent of the world's export of high quality natural stones like granite, marble, sandstone. India has vast resources of granite with about 120 varieties of different colures and textures. The manuscript focusing on several problems faced by the granite industry like raw materials, financial, marketing, labour, transportation, and tax problems. The study selected Chittoor District of Andhra Pradesh in India.

#### **KEYWORDS**

Chittoor, Development, Growth, Investment, Production.

### INTRODUCTION

ranite is known as "King of Stones" because of its inherent characteristics such as extra fine mirror polish, scratch free glossy surface and durability. Indian granite has become the most sought after and extensively used stone material in building constructions and massive structural works throughout the world and is well known in the international market not only for its elegance and aesthetic quality but also for its durability. India has one of the best granite deposits in the world. With a varied diversity of more than 200 shades, India accounts for over 20 per cent of the total granite reserves across the world. India has emerged as one of the leading countries in the production and export of granite and other stones. India has enormous resources of granite with about 120 varieties of different colures and textures. The industry is producing a wide range of granite based products, viz. granite tiles, slabs/blocks, monuments, tombstones, table tops and several handicraft items like costume jewelry boxes, ashtrays, pen stands, paper weights etc.

Ever since the government of India pronounced granite as a Thrust Sector in 1990, the granite industry has taken a new turn. Today granite has emerged as a major foreign exchange earner. The stone industry, particularly the granite field, has received a wider publicity and corporate importance, only in the last few years. It is emerging now as a thrust export-area with several corporate houses, supported by expert professionals trained in all aspects, entering the sector with sophisticated world-class machinery and making it an organized one. Yet, it is a pity to note that many overseas buyers, including the Japanese, the regular importers of the Jet Black Material, which is considered to be the world's best variety and is found in abundance in Tamil Nadu, Andhra Pradesh and Karnataka have, of late, lost confidence in the supply of material owing to its interrupted schedule. This is mainly due to the inconsistent policies of the Governments towards this industry, together with political interference in mining lease and other procedures.

India would certainly play a vital and leading role in the granite sector in the years to come, provided there is co-operation between industries in this sector. Co-operation is a must to compete effectively in the international market, and cutthroat competition should be avoided at all costs in the interest of the industry in the long-run. India would emerge as a leading super market for granites, bringing in more foreign exchange to the country. Granite is widely used as a dimension stone and as flooring tiles in commercial buildings, monuments as well as private houses. Owing to its strength, it is also used as foundations for homes in various countries. With an increase in the number of acid rains in many parts of the world, this stone has begun to supplant marble as a monument material as it is much more durable. Refined or polished granite is also a popular choice for kitchen counter tops due to its requirement of low maintenance and aesthetic properties. In such cases, "granite" is a common term for all igneous rocks with large crystals, and not specifically to those with a granitic composition. Granite stones also find application for gravestones, memorials and other artifacts. Engineers generally use polished granite surfaces to establish a plan of reference, as they are relatively impervious and inflexible. The total granite reserves in the country are estimated around 42, 916 million cubic meters and it is one of the largest exporters of granite and granite products in the world. Geologically the southern and eastern belts of the nation are available in abundance in Tamil Nadu, Andhra Pradesh, Karnataka, Maharashtra, Assam, Bihar, Rajasthan, Orissa, Meghalaya and Madhya Pradesh.

### **DATA BASE AND METHODOLOGY**

In the present study an attempt has been made to analyze the growth anddevelopment of granite industry. The study is based on the data drawn from the secondary sources. The secondary data were used and collected from various published and unpublished reports and working papers and books such as Reports and publications of Government of India, Government of Andhra Pradesh, Department of Mines and Geology, Indian Bureau of Mines, and District Industrial Centre.

#### **REVIEW OF LITERATURE**

- The details of different varieties of granite bodies/occurrences are available in the GSI unpublished report (1988) on "Regional Assessment of Granites as Dimensional and Decorative Stone in Rajasthan, India." In course of regional assessment it was observed that the high grade granite stones in Bilwara, and Rajsamand districts and granites of Malani igneous suite in Banter and Jaisalmer districts were important granite bodies.
- > Dr. H.S. Yadav and A. RajanBabu(2003)pointed out that the main reason for slow uplift of granite industry is the lack of awareness among the entrepreneurs about the quality of blocks and careless marketing strategy. They are presenting the products of granite in the market on the fixed trend, which is being followed for the last fifty years, since the down of granite business.
- > S. DhanaPandian and B. Gnanavel (2009) in their study on "An Investigation on the Effect of Incorporation of Granite and Marble Wastes in the Production of Bricks" observed that sawing and polishing processes of granite and marble industry generates large amount of wastes, which can seriously pollute and damage the environment. Therefore, the present work intends to study the sustainability of incorporation of granite and marble wastes in brick products. Granite and marble is a natural hard igneous rock. It is especially used for building and monuments.

#### **OBJECTIVES**

The main objectives of the present study are:

- 1. To analyze the growth and development of granite industry in Chittoor district.
- 2. To study the performance of granite industry in terms of production, investment and employment.
- 3. To identify the problems of granite industry in Chittoor district.

### **TOOLS AND TECHNIQUES**

In order to analyze the growth and development of granite industry, the data were collected from the secondary sources. The data was analyzed with the help of statistical techniques. The statistical tools used in this study are simple percentages and averages to examine the performance of granite industries. The linear growth rates, coefficient of variation, values, 't' - test values were used to examine the growth of granite industries.

### **GROWTH AND DEVELOPMENT OF GRANITE INDUSTRY IN CHITTOOR DISTRICT**

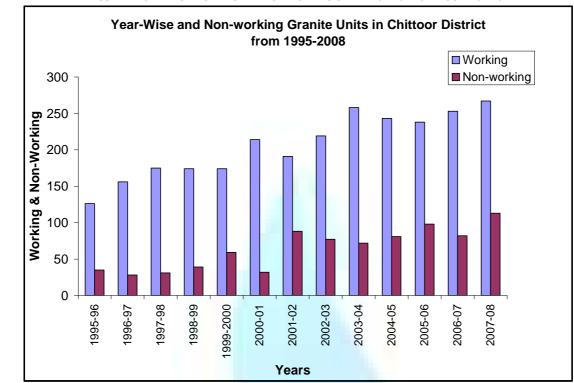
Granite industries play a pivotal role in the economic development of Chittoor district. Granite industries have the advantages of generating gainful employment, with low investment, diversifying the industrial base, reducing regional disparities through dispersal of industries into rural, semi-urban and backward areas. Granite industries including large, medium and small scale industries play a catalytic role in achieving the national or state, regional level objectives of increase industrial production, generation of additional employment, and more equitable distribution of income and means of production and reducing regional disparities. Recognizing the suitability of granite industries has been accorded due priority in the Chittoor district. The granite industry has an important role to play in small scale industries for industrial development in the district. The Chittoor district with 380 granite units and vast resources of granite is making all out efforts to exploit and optimize granite production establishment of small-scale industries and undertake value addition. It has identified in SSI sector as one of the growth engines for overall development of industry and infrastructure in Chittoor district. The production of granite industry has a significant place in small-scale industries in Chittor district. The granite industries produced 23630.521 cubic meters of the production by 2007-08 in the Chittoor district. Now the demand for the granite stone from the people has increased in the Chittoor district.

TABLE 1: YEAR-WISE WORKING AND NON-WORKING GRANITE INDUSTRIES IN CHITTOOR DISTRICT

Sl. No.	Years	Working	Non-working	Total	Column 2 as a % of column 5	Column 3 as a % column 6
1.	1995-96	126	35	161	78.26	21.74
2.	1996-97	156	28	184	84.78	15.22
3.	1997-98	175	31	206	84.95	15.05
4.	1998-99	174	39	213	81.69	18.31
5.	1999-2000	174	59	233	74.68	25.32
6.	2000-01	214	32	246	86.99	13.01
7.	2001-02	191	88	279	68.46	31.54
8.	2002-03	219	77	296	73.99	26.01
9.	2003-04	258	72	330	78.18	21.82
10.	2004-05	243	81	324	75.00	25.00
11.	2005-06	238	98	336	70.83	29.17
12.	2006-07	253	82	335	75.52	24.48
13.	2007-08	267	113	380	70.26	29.74
	LGR	5.21	10.29	6.42		
	t-value	10.256**	6.738**	20.557 **		7

Source: Ministry of Mines and Geology.

FIGURE 1: NUMBER OF WORKING AND NON WORKING GRANITE UNITS IN CHITTOOR DISTRICT



Source: Ministry of Mines and Geology.

The above table 1 and figure reveal that the working and non-working of granite units in Chittoor district from 1995-96 to 2007-2008. The data reveal that the total number of working units increased from 126 in 1995-96 to 267 units in 2007-08 and their percentages are 78.26 percent in 1995-96 and 70.26 per cent in 2007-08 respectively. On the other hand the total number of non-working units increased from 35 in 1995-96 to 113 units in 2007-08, and their percentages include 21.74 per cent and 29.74 per cent respectively. Therefore the total number of working and non-working units increased from 161 in 1995-96 to 380 units by 2007-08. It indicates that the establishment and development of granite units in Chittoor district has been slow in position over the years.

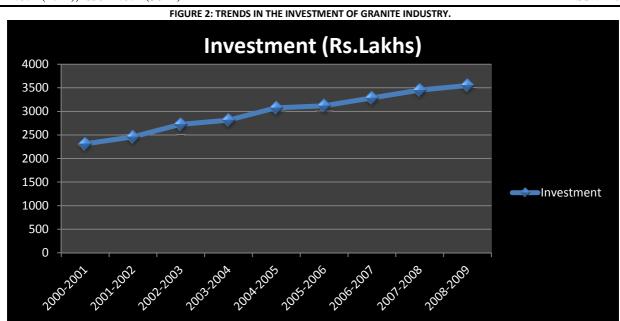
The linear growth rate for the working units was calculated and it was found that there was a significant growth of 5.21 per cent. The linear growth rate for the non-working units was calculated and found as 10.29 per cent and significant at 1 per cent level. The linear growth rate for both working and non-working units was calculated and found as 6.42 per cent and significant at 1 per cent level.

TABLE 2: GROWTH PATTERN IN INVESTMENT OF GRANITE INDUSTRY IN CHITTOOR DISTRICT (Rs. in Lakhs)

SI. No.	Year	Investment
1.	2000-2001	2310
2.	2001-2002	2460
3.	2002-2003	2724
4.	2003-2004	2815
5.	2004-2005	3075
6.	2005-2006	3120
7.	2006-2007	3285
8.	2007-2008	3450
9.	2008-2009	3551

Source: Department of Mines and Geology, Chittoor, (DIC) District Industrial Centre, Chittoor.

The investment of granite industrial units (in lakhs) in Chittoor district from 2000-01 to 2008-09 is shown in Table 4.5. The investment, the table points out, increased from Rs.2, 310 lakhs in 2000-01 to Rs.3, 551 lakhs by 2008-09. This shows that the investment in lakhs increased considerably in the granite industrial units over the years. The granite industrial units in Chittoor district registered considerable growth in terms of investment over the years.



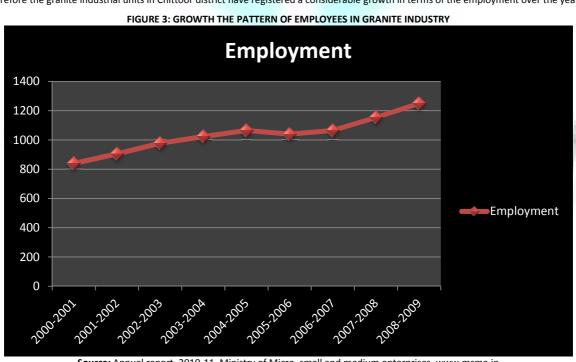
Source: (DIC) District Industrial Centre, Chittoor.

**TABLE 3: GROWTH THE PATTERN OF EMPLOYEES IN GRANITE INDUSTRY** 

SI. No.	Year	Employment	
1.	2000-2001	840	
2.	2001-2002	905	
3.	2002-2003	978	
4.	2003-2004	1024	
5.	2004-2005	1065	
6.	2005-2006	1040	
7.	2006-2007	1065	
8.	2007-2008	1154	
9.	2008-2009	1250	

Source: Annual report, 2010-11, Ministry of Micro, small and medium enterprises, www.msme.in

The employment in persons in the granite industrial units in Chittoor district – from 2000-01 to 2008-09 is shown in table 3. The data show an increase from 840 persons in 2000-01 to 1250 persons by 2008-09. This points out that the employment in persons has increased considerably in the granite industrial units over the years. Therefore the granite industrial units in Chittoor district have registered a considerable growth in terms of the employment over the years.



Source: Annual report, 2010-11, Ministry of Micro, small and medium enterprises, www.msme.in

TABLE 4: GROWTH MODEL OF PRODUCTION IN GRANITE INDUSTRY IN CHITTOOR DISTRICT (Rs. in Lakhs)					
Sl. No.	Year	Value	Increase of value	Percentage of increase	Value of production constraints (per day)
1.	1995-1996	552.91	-	-	1.51
2.	1996-1997	751.39	198.48	35.90	2.06
3.	1997-1998	705.00	-46.39	-6.17	1.93
4.	1998-1999	980.36	275.36	39.06	2.69
5.	1999-2000	1204.14	223.78	22.83	3.30
6.	2000-2001	1213.33	9.19	0.76	3.32
7.	2001-2002	791.31	-422.02	-34.78	2.17
8.	2002-2003	1325.52	534.21	67.51	3.63
9.	2003-2004	1545.42	219.9	16.59	4.23
10.	2004-2005	1670.67	125.259	8.11	4.58
11.	2005-2006	2111.06	440.384	26.36	5.78
12.	2006-2007	2092.43	-18.638	-0.88	5.73
13.	2007-2008	1821.53	-270.9	-12.95	4.99
	LGR	9.72			
	t-value	8.031**			

<sup>\*\*</sup> Significant at 1 percent level

Source: Centre for industrial and economic research (CIER), New Delhi

FIGURE 4: TRENDS IN THE DEVELOPMENT OF GRANITE INDUSTRY AND THE PRODUCTION Year-wise Value of Production in Chittoor District from 1995-2008 (Rs. in Lakhs) ■ Value (Rs. in Lakhs) 2500 2000 Value of Production 1500 1000 500 0 2002-03 1998-99 2000-01 2003-04 2005-06 2006-07 999-2000 2004-05 96-566 26-966 2001-02 **Years** 

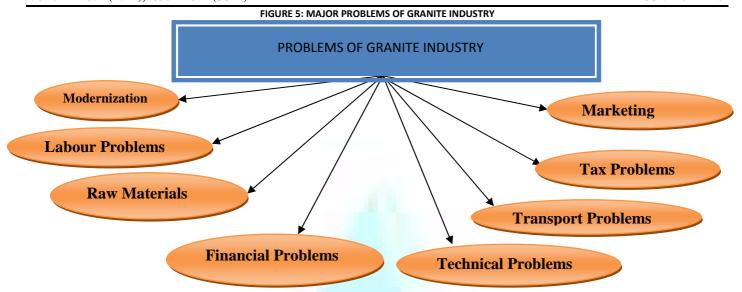
Source: Centre for industrial and economic research (CIER), New Delhi.

The above table and figure shows the value of production of granite units in Chittoor district from 1995-96 to 2007-08. It recorded an increase from Rs. 552.91 lakhs to 1821.525 lakhs. It was high in 2005-06 recording Rs.2111.06 lakhs with 26.36 percent, but the production value of granite in the district was negative in 1997-98, 2001-02, 2006-07 and 2007-08 respectively accounting for -6.17 percent, -34.78 percent, -0.88 percent and -12.95 percent.

The linear growth rate for the value of production of granite was calculated for a period of thirteen years, and it shows a significant growth at 9.72 percent. The value of production of granite in Chittoor district from 1995-96 to 2007-08 is shown in the above graph 4.

### MAJOR PROBLEMS OF GRANITE INDUSTRY

The status of the Indian granite industry is a matter of concern for anyone who is involved in this industry. India is the world's third largest producer of natural stones and fifth in export financial products. Even today the Indian share of world market is less than 10 percent. There is, however, a bright future for increasing the Indian share in the world market with its vast area of granite deposits spreading over more than 15 states and with wide variety of colours and skilled work force. The growth of the granite industry, which provides a lot of employment, particularly for the rural masses, is important for the socio - economic development of the country. The major problems observed include productivity, modernization, lab our, raw material, finance, technology, transport, taxation, power supply, marketing and lack of infrastructural facilities. The various types of problems being faced by the granite industry and a detailed study of each problem are presented as shown in figure 5



### MODERNIZATION

The main obstacle for the slow rate of modernizing the quarry is due to very high rate of import duty on capital equipment like diamond wire saw machines, drilling equipment and on consumables like diamond wire, drilling rods etc. To encourage the industry and to modernize the quarry operations, the Government should consider granting mining industry 100 per cent export oriented unit status or full duty exemption for imports against export of blocks. Such help from the Government will not only make the quarry operations profitable but also can encourage entry of corporate companies into the granite sector.

#### LABOUR PROBLEMS

Labour is the crucial input for any enterprise and more crucial in the case of granite industry. Handling labourers is one of the most difficult tasks performed by the entrepreneurs because of the involvement of human element. The low productivity per worker and less man-hour utilization is another problem for the granite industry. The lack of exposure to modern quarrying and training for the workers is a major reason for the low productivity of the workers. The non-availability of local skilled labourersis problem. The granite industrialists are sometimes forced to recruit unskilled workers and train them for a few months so effectively to employ them. It is right time that government and the industry should work in tandem to establish a training institute to educate and train the work force, which will help the mining industry to a great extent. Better utility of labour force with motivation for high productivity is essential for the growth and competitiveness of the granite industry.

#### **RAW MATERIALS**

Yet another major problem of the granite industry is the non-availability of raw material at standard prices. The scarcity of raw materials was found to be the major problem more so in the initial years, followed by the high cost of raw materials, non-availability of raw materials in the required quantities, poor quality of raw materials and lack of transport facilities to transport raw materials to the granite industries.

### FINANCIAL PROBLEMS

The availability of timely and adequate finance at reasonable rate is an essential pre - requisite for the development of granite industries. Granite industries generally do not have sufficient funds of their own to meet the required fixed capital and working capital investment. The paucity of funds often makes it difficult for them to install modern machinery and tools and to maintain them properly. The high rate of interest charged by the financial institutions should be reduced to make the Indian granite products more viable in the world market. Incentives like liberal working capital norms, longer repayment schedules for loans etc. should be implemented immediately. There are various other indirect problems relating to finance like delays in the realization of bills, uneven supply of raw materials, increased production costs, problems of marketing etc. The financial institutions and banks insist on the provision of detailed information and project reports before providing financial assistance for granite industry units.

### TECHNICAL PROBLEMS

One of the serious problems confronting the granite industry has been the non-adoption of sophisticated technology and modern equipment/machinery and this gives rise to several technical problems in production process. The ultimate quality and the productivity depend largely on the technical setup of the firms. Some of the technical problems faced by the granite industrial owners are (1) Unsuitability of the machinery to suit the quality and quantity of the granite product, (2) Inter - machinery balancing which brings proper interaction among the different stages of production, (3) Testing facilities for raw material, (4) Excess consumption to identify the granite deposits, (5) Excess consumption of power fuel and large number of projects generations, and (6) Excess consumption of raw materials. The consistent and upgrading the technology by installing new machines will improve the productivity and reduce production cost in the long run. For example, a stationary wire saw for dressing the blocks would increase the number of blades in the gang saw, thereby producing more granite slabs.

### TRANSPORT PROBLEMS

Transporting the granite slabs is an important activity. The manufactured granite stone has to be transported to various marketing centers. Though some of the raw material and granite blocks are available in the local areas, other inputs have to be transported from various other places which require proper transportation facilities. The important problems of transportation include increase in transport costs, and inconvenience in engaging different modes of transport before the granite products are finally sent to the market.

### TAX PROBLEMS

Payment of taxes on the manufactured granite productivity has become a major burden on the part of granite industrial entrepreneurs. The granite industrialists feel heavy burden to pay the sales tax, VAT, excise tax and other (municipal / local) taxes.

### MARKETING PROBLEMS

Marketing strategy needs to be structured to suit the changing, growing and varying complexes of national and international markets. It has to be considered and adopted to meet the needs of dynamic markets with much greater care in the case of mineral based industries particularly in granite industries. Marketing problems of granite industries mostly arise due to lack of standardization, inadequacy of products and methods of design the slabs, use of low quality of stones, lack of precision and inconsistency in the finishing of the granite products etc. The market oriented problems from inadequate resources at the disposal of granite industries include identification of the market outlets and market characteristics of their products and also for tapping profitably the existing new market outlets and contexts. The poor marketing performance may lead to unrest in the field of granite industries. Marketing which is a major area of operation in granite industrial units often is neglected in many cases. Some of the marketing problems faced by granite industry owners include inefficient sales force, high cost of marketing, inadequate sales promotion, customer resistance, and high cost of transport for arrival market centers.

### **SUGGESTIONS**

- Periodic interaction between the industries and government should be taken to facilitate the promotion of granite sector.
- The government should recognize the important of developing new products based on granite.
- Efforts should be taken to encourage Research and Development in this granite industry.
- > Special efforts should be taken to put even small bits and pieces of granite to good economic use.
- The government should actively encourage the use of by-products for the use by the government departments.
- > Regarding leasing pattern, fragmentation of leases should be avoided in order to provide a healthy development.

### **CONCLUSION**

Unemployment and poverty are the two problems confronting the Indian economy. The only hope of solving the problems rural poverty and unemployment lies in the growth of the decentralized industrial sector constituting village and small industries. Because of their capital and labour intensive nature, these industries have the potential to provide gainful employment to the rural and semi-urban population. Among these small industries, granite industry is the one which provides gainful employment to the people. The granite industries are less capital intensive and labour absorbing. Several policies and programmes have been taken up to promote and develop granite industries. Capital assistance has been provided through a wide network of financial institution in the country. The policies and programmes should be periodically reviewed and reoriented to ensure that the no worthwhile and viable granite industrial units suffer. Besides, financial institutions have to play a crucial role to make the granite industries competitive and economically viable. Suitable strategy has to be evolved to develop granite industrial units technologically strong and compete with the other countries of the world in the context of globalization.

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