CHAPTER - III

REVIEW OF LITERATURE

3.0 INTRODUCTION

The purpose of this chapter is to provide the researcher with background information on the origin, development and contemporary studies relating to brick industry, wherein the present investigation starts. The intension of this chapter is not to furnish the development of brick industry, rather the purpose here is to familiarise the researcher with selected aspects of research on brick industry undertaken by the researchers of different kinds, which are very important to understand the nature, scope and significance of brick industry. In addition, descriptive and documentary materials are presented here to gains insights into the different studies related to the brick industry.

3.1 STUDIES ON BRICK INDUSTRY

The studies on brick industry and its management can be divided into two types. One type of studies has described a few aspects of the organsational and management structure of brick industry. The second type of studies has dealt exclusively with the management of labour and their problems in brick industry.

The first and the most important study undertaken by Chopra and Patwardhan (1954) dealt with the sources and uses of raw materials, production and manufacturing process cost structure and characteristics of brick industry. Shetty (1963) has examined some aspects of capital structure, labour management and marketing of bricks. Rao (1965) has analysed capital, labour, cost structure, capital-labour, capital-output, value added, labour ratio in many small scale and village industries including the brick industry.
Pratten (1971) has ascertained the economics of scale in the brick industry which was one of the 25 industries surveyed in the United Kingdom. Baily (1978) has studied the market structure and choice of technology in the Colombian brick industry. Institute of Applied Manpower Research (1979) has examined the economics of brick industry which deals with the sources of finance, cost-output relation and the structural ratios such as capital-output, employment-output, capital-employment, wage structure value added etc.

Lim (1981) has reviewed the structure of production, levels of wages and capital intensity (fixed capital per worker) and factors influencing the choice of technology in brick industries. Malini Varadharajan (1982) has made an attempt to study the relationship between cost of production and profit in Clamp Kiln units. Along with cost structure, Shyamala (1983) has analysed the resource efficiency of the brick industry. Anandhy (1988) has highlighted the techno-economic characteristics of the brick industry. Besides, she has reported the socio-economic background of both brick entrepreneurs, brick workers and the channels of marketing of bricks. Arul John Benet (1988) has picturised the socio-economic structure and management of the brick industry. Pandi (1989) and Sudalai (1992) have examined the production structure and marketing problems of the brick industry and have opined that the brick industry is generally unorganised in nature and marketing activities and their channels are highly controlled by middlemen and commission agents, who generally exploit the producers (brick entrepreneurs) and the consumers (the common public).

All these studies have concluded that brick industry was labour intensive in nature, the small scale units (Clamp Kiln units) generate more labour employment for the same unit of capital and output than the large scale units (Bulls Trench Kiln units); the capital productivity was the same for the small scale units as well as the large scale units, the labour productivity was higher than the capital productivity in the industry irrespective of small or the large scale units. The production of bricks was affected by the shortage of labour and the scarcity of raw material. It is observed from the field visits that
the season and quality of bricks determine the general price of bricks. The cost of production of bricks differ from unit to unit and such variations were caused by the cost of clay and the distance of brickyard from the source of clay, its availability, productivity and remuneration (wages) to the labour and cost of fuel, especially of firewood. Fuel cost and labour cost constituted a major constituent of the cost of production and different sizes of units co-existed in brick industry: The brick industry enjoys generally the economics of scale and production of brick and brick industry did not have any marketing problem and sometimes they sold the bricks directly to the consumers and mostly through middle men.

Of the above studies, the studies made by Shetty (1963), Rao (1965), Institute of Applied Man Power Research (1979) and Lim (1981) have over ambitiously examined the nature, scope and significance of brick industry in term of their coverage.

Moreover, all these studies are pretty old. Studies made by Pratten (1971) and Baily (1978) dealt with only large scale (mechanized) brick units and their study, mainly concerned with the cost-output structure of the brick industry. The works of Malini Varadarajan (1982) and Shyamala (1983) analysed the working capital and different aspects of management on a very small sample size of brick units. The former study was related to ten small scale units (Clamp Kiln units) and the latter related to only eight large scale units (Bull's Trench Kiln units). Since the size of the sample is too small in both the studies, their conclusions cannot be generalized and applied to other areas with similar organisational structure and working capital management.

Anandhy’s (1988) study excluded the large scale units (Bull's Trench Kiln units) and mainly concentrated on labour management, labour welfare and labour problems. The other dimension of brick units such as investment and capital, production and costs were not thoroughly examined in her study.
Arul John Benet (1988) has covered only the small scale units (Clamp Kiln units). He has highlighted the cost and the output relationship. But in this study, the cost of production of bricks has not been scientifically worked out. The component of costs which include interest, rent and license fee have been excluded. Though the studies of Panda and Sudalai (1992) have made an in depth analysis of how bricks were produced in terms of production; how the brick marketed in an unorganised manner and they did not pay adequate attention to the structural and functional characteristics of the brick industry, though most of the brick units are located in rural and semi-urban areas.

The next type of studies focused their attention on the labour and wages, employment and working conditions that prevailed in the brick industry. While examining labour conditions in various industries, Delhi State Government has examined the present labour conditions in terms of wages and bonus, terms and conditions, labour welfare programmes etc., in brick industry, Gulati (1979) has studied the status of labour (in terms of permanent, temporary, contract, etc.,) and working conditions and working environment in brick industry. Government of India (1980) in its Industrial Survey described the status of labour and their working conditions in manufacturing of structural clay products which also included the manufacturing of bricks. Chopra (1982), Deliege (1988), Chandra and Singh (1983), Patil (1983), Pandey Sarup and Prakash (1985), Chavan (1991), Dharmalingam (1995) and Gulati and Gulati (1997) have attempted to examine the structure of labour market and employment potential, prevailing working environment in the brick units and elaborately discussed the standard of living of the brick workers.

Stephen Joseph (2000) has reported that there were 700 brick manufacturing units in Thailand and providing direct employment over 20,000 people (50.0 per cent of them are women) and indirect employment to over 100,000 workers. Most of these brick units are located in rural areas, due to high urban growth rates leading to the boom in construction industry.
Moreover larger brick units are being built in suburban areas where large quantity of raw materials such as soil (red, clay and alluvial) and sand are available. Most of the rural brick units are owned by successful rich farmers whose subsidiary occupation is manufacturing of bricks, while most of the urban brick units are owned by entrepreneurs who have gained experience through working in other brick units. There are very few brick units that are owned by corporations (or) by wealthy entrepreneurs.

The results of Stephen Joseph (2000) indicate a fact that much of the money made in the brick industry flows to the rural landless and to farmers who own the small piece of land with good soil that is used as raw material in the production process of manufacturing bricks. Many of the rural brick owners use clay, dug from their own land and firewood harvested from their own plantations. The brick industry uses approximately 14 million tons of firewood per annum and is probably the largest industry using firewood in Thailand.

Lingam (1990) has made an empirical study on the structure of brick units in Thovalai Taluk in Kanyakumari District in Tamil Nadu and carefully analysed the capital structure of the brick units. He has examined the cost structure, employment pattern, the components of working capital, wage structure and methods of brick sales strategy adopted by brick units in order to promote the sales volume and sales value of bricks in the study area.

Leela Gulatti (1979) has exclusively analysed the working conditions and the status of the female workers in the brick industry in Kerala. The study has confirmed a fact that women workers are discriminated in many ways and the principle of equal pay for equal work is not enforced in the studied brick units. Moreover, the female workers in the study area are heavily exploited because they have no trade unions or organisations or associations to protect them. Female workers in the brick units stick on to their jobs, in spite of adverse working and environmental conditions prevailing in the brick units, because of job uncertainty and lack of adequate employment opportunities elsewhere.
An empirical study made by Pandey, Shanti Sarup and Ved Prakash (1985) have focussed their attention on the employment pattern, capital structure, and the input-output analysis in brick industry. The study was confined to Kerala, Haryana and parts of the rural areas in and around Delhi. The authors have made an in depth study of the various inputs such as soil, water, labour, fuel, etc., and the number of days of employment offered to the brick workers in the brick industry.

Ameya Rao’s (1981) study has examined the environment and working conditions of the labourers at the brick kilns located in Delhi and Haryana. This study reported that the wage rate was very meager and the employment was irregular and brick workers were living in abject poverty.

Central Building Research Institute (CBRI, 1989) Roorkee has conducted a survey on brick production and examined the availability of raw materials needed for brick production and the nature and type of kilns used in the bricks firing, volume of production and costs of different raw materials involved in the production of bricks. It highlighted a paradox that although bricks are used for construction on a large scale, the production of bricks is mainly done on cottage and village industrial units, because many experts opined that brick industry is unorganised and traditional in nature.

Rajeshwari and Ramaswamy (2001) have undertaken a micro level in depth study on the traditional brick industry in selected talukas of Tirunelveli district in Tamil Nadu. This study covered different areas such as distribution of units, size of units, location of units, factors motivated for establishment of brick units by rural entrepreneurs especially farmers, production capacity of the units, capital structure, employment, marketing problems and cost structure. They concluded that generally farmers in the study area are effectively involved in the production of country bricks (traditional bricks) during offseason.

Muthukumaran and Raja Alias PranmaSai (2001) have conducted a study on production and marketing of chamber bricks in Madurai district. This
study has analysed the relationship between production and size of units, marketing problems of chamber brick industries and also covered some aspects of environmental pollution especially smoke emanating from brick industries in and around the location of the brick industry. The study has not covered the major problem of labour because the owners of Chamber Brick industries have not permitted the researchers to interview the labourers (male, female and child) of their brick kiln.

Manoharan (1998) has studied the scale technology and efficiency of brick industries in Tamil Nadu. He has chosen two districts for his research study viz., Chengalpattu and Dharmapuri. The study revealed that there is a close relationship between the size of the unit, technology adopted and efficiency in terms of operation, economics of scale in production. This study has confirmed a fact that whenever the size of the unit is large, automatically modern technology could be used which in turn led to an increase in production through improvement in efficiency in terms of economic and technical efficiency. The study has failed to discuss the environment and working conditions of labour in general and particularly marketing problems faced by the brick industry.

Jayachandran and Raja Alias Pranmalai (2001) have studied the production and marketing of bricks in Athoor block of Dindigul district. This study was mainly concerned with the unorganised and decentralised traditional brick industries in rural Tamil Nadu. Further, it covered only production and marketing of bricks and also examined the socio-economic conditions of owners of the brick units. This study also has not touched the major problems of labourers who are working in the traditional brick units.

Pandey (1985) in his study on “Employment Potential of Brick Kiln” revealed a fact that brick industry has generated employment opportunities to the brick workers for 120 to 150 days in a year. The total investment was Rs. 6.74 lakhs per kiln. This study identified that 46.0 per cent of the total expenditure was incurred on firewood alone. Finally, he suggested various
measures such as uniform firing, homogeneous firewood, and regular arrangement of unburned bricks etc., so as to reduce the firewood cost.

Alamelumangai and Raja alias Pranmalai (2003) have attempted to study the economic performance of Venkatachalapuram Harijan Brick Worker’s Cottage Industrial Co-operative society Ltd., in Trichy District. This study has analysed the performance of brick manufacturing society in terms of membership, share capital, borrowings, reserve fund and profitability. They, further, have examined the socio-economic conditions of brick workers working in the brick industry. This study revealed a noteworthy fact that since inception, the brick society has been earning huge and abnormal profits and the dividends and the bonus have been regularly distributed to the workers of the society.

Seetha and Arokiasamy (2002) have studied the production and marketing problems of chamber brick industry in Dindigul district. This study confirmed one interesting fact that the recent environment protection measures of the Tamil Nadu state government has affected the production and marketing of the brick chamber industry in Tamil Nadu.

Kavitha (2002) has studied the marketing of bricks and the major problems faced by brick units in Radhapuram Taluk in Tirunelveli District. The study mainly focussed on the methods of price fixation of bricks and factors influencing the marketing of brick in the concerned study area. It is interesting to note that there is no scientific formula for fixing the price of bricks. But, based on the local demand and the quality of bricks, the price for bricks is fixed. The study did not cover the other aspects such as labour, capital, etc. of the brick industry.

Jayoti Gupta (2003) has undertaken a study on informal labour in Brick Kilns in Ghaziabad (Uttar Pradesh) and Faridabed (Haryana) and examined the need for regulations of brick kilns. According to him, these brick kilns operate in a largely unregulated manner in the informal sector and
remain outside the purview of workplace laws, with workers bound to contractors and owners by the system of advancements.

He also opined that several committees have made recommendations to improve the welfare of brick kiln workers, but only a few of these have been implemented.

Thangapandy and Ramasamy (1998) have undertaken a study on “Brick Industry - A Micro Business Enterprise in Rural Areas in Dindigul district” by meeting and investigating 30 chamber brick industry entrepreneurs. They have analysed the economic structure, availability of infra-structure, cost function (cost-output relation) quantum of energy used and particularly firewood consumption and profit earned by brick units which are producing different types of bricks. According to them, the major consumers of bricks are contractors (54.0 percent) followed by commission agents (26.0 percent) and the common public (20.0 percent). Brick industry entrepreneurs are selling the bricks by cash (54.0 percent) and credit (46.0 percent) and based on the field observation they reported that the cost of production of bricks and the profits earned from brick industry have been continuously increasing year after year.

Narayanasamy and Ramasamy (1995) have explained the cost of production of bricks in 50 chamber brick industry in Dindigul district. According to them, the average cost of production of chamber brick is Rs. 0.83. Of the total cost (chamber bricks), fixed cost is contributed by 7.0 percent and variable represented by 93.0 percent. According to them firewood and labour cost are the major variable costs in brick production.

3.2 RESEARCH GAP

A review of the studies has uniformly concluded that the brick industry is labour intensive and generates massive employment opportunities. Most of the studies reviewed earlier, mainly concerned with labour, production and marketing aspects of chamber brick units. So far, no scientific enquiry has
been made to study the economic analysis of traditional brick units. Thus, based on the review of literature, the researcher, at present, has made an attempt to examine the economic analysis of brick industry (traditional brick industry) covering different areas of management such as material, financial, production, labour energy, environment, marketing and risk. This is a unique study which includes different management aspects, which are not so far covered by the experts, who made a little contribution in the development of brick industry.

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