INTRODUCTION

This study is designed to analyse some important aspects of the brick-kiln industry in the state of Haryana with special reference to the Sonepat district. The brick-kiln industry occupies a very important place in relation to the industrial structure in the State. Unfortunately, it has remained in a state of neglect, without any serious efforts to understand and analyse the problems affecting this industry. This study is an attempt in this direction.

Home and hearth connote a sense of fulfillment and comfort. Next to bread and clothing, shelter, perhaps, is the most pressing human need for the survival of life. A home not only protects us from inclement weather but also serves as a fortification against all sorts of enemies and predators. The age of log-cabins has long been over. Since the price of timber has touched a peak beyond easy reach, the use of wood and timber is made in a house only for the most indispensable parts of construction. Bricks, both katcha and pukka, have been the source of civilization through the ages. Today the pukka bricks and stone constitute the major building material.
Stone masonry is selective in nature, depending upon technical necessity and its availability. However, in every-day use an ordinary man today just cannot think of a house without a major item of bricks as building material.

The history of bricks reveals that thousands of years ago mainly katcha bricks prepared out of mud and clay were in use, often in mixture with chopped straw. The sub-dried Katcha bricks had a shorter life-span as they weathered away in about fifty years or so under the influence of inclement weather. Hence the use of fire-baked (pukka) bricks was started long ago because these bricks had double the life-span extending up to 100 years. Originally, the size of pukka bricks was small — viz (5\times2\frac{1}{2}\times1\frac{1}{2})", perhaps because the fuel used in those days consisted of fire-wood, twigs and dung cakes. It seems that with the introduction of coal as a fuel it became possible to bake bigger-sized bricks more efficiently and with the passage of time a pukka brick measuring (9\times4\frac{1}{2}\times2\frac{11}{16})" came to be accepted as the standard size. However, smaller-sized tiles continued to remain in use to meet specific needs. But the standard size is now in vogue throughout the country.

From excavations of Mohan-Jodaro and Harappa we have the samples of bricks that were used in ancient Indian civilization. In other parts of the world excavations along the banks of the Nile and Tigris have revealed the use of Kiln-baked bricks by Babylonians over 6000 years ago. Some of these bricks even bear the inscriptions of that age. Anyway, in our country it can be safely assumed that bricks and Tiles have been used by people since the Mahabharata times.

In big towns the expert potters (Kumhars) prepared bricks and baked them in clamps (Pazawas) on the out-skirts of the town to maintain supplies at the prevalent prices. Such clamps prepare 25,000 to 1,00,000 bricks and it takes three months to finish the process of burning and cooling. The vestiges of this traditional method can still be seen on the out-skirts of big villages and towns.

The most common practice for producing the standard size bricks measuring (9"x4½" x2 11/16") consists of trench-type brick-kilns with a use of coal as fuel. So far as the use of fuel is concerned,
solar energy, petroleum gas and even electricity are being tested through new devices and means so as to find an economical and efficient technique. In short, the pukka brick remains the most important building material today and would continue to be in greater demand for decades to come in view of the constantly increasing population. Search for a substitute for bricks continues unabated and many alternatives are being tried, such as a mixture of sawdust, ashes, plastic chemicals etc., but no such real substitute is foreseen in the near future.

The objective of the present study is to investigate the possibilities of utilising the existing resources of land, labour and finance more effectively in the brick-kiln industry. It also aims at finding out whether existing facilities can be utilised more efficiently to benefit the producer as well as the consumer. The organisational and managerial aspects of this industry, the cost and capital structure, and the input-output relationship in the brick kiln industry are also proposed to be studied.

Furthermore, the extent and pattern of the employment of rural population, and the behaviour of the proprietors and labour towards the scientific developments in the industry will also be examined.
The development of this industry vis-a-vis the employment avenues is also an important part of our investigation. The present study, therefore, intends to pin-point all the social, economic, and political aspects of the skilled and unskilled labour engaged in the industry. Sufficient light will also be thrown on scarcity of good soil for brick-making, future availability of skilled workers for moulding and baking of bricks, pollution of atmosphere if any, availability of good-quality coal, and scientific use of all the resources.

To carry out our research, the district Sonepat, in the state of Haryana, was selected. The rationale for the selection of the Sonepat district is by way of random selection out of all the districts of the state of Haryana. The observations collected from this area can be suitably applied all over Haryana, as expansion of industries, education and health has given impetus to a uniformly increasing demand of bricks all over the state. We have taken up at random 25 brick-kilns out of 53 in the Sonepat zone and these kilns are all licensees of the Govt. of Haryana. The map of this zone reveals that the 25 kiln-sites of our study are ideally located and meet the statistical standards.
The brick kiln industry in the state faces some serious problems. As all the brick-kilns are regularised under Govt. control, the future of the brick-kiln industry itself hangs on the policy of the Govt. relating to brick kilns as well as day-to-day labour laws. Since these brick-kilns are authorised by the Govt., it would be interesting to study the existing regulations in order to find out whether they could be improved upon and used as booster for the mutual benefit of the consumer, labour and the producer.

In view of the steep rise in the prices of the material involved in brick-making, the brick kiln owners have to face serious shortage of finances. It, therefore, devolves upon the Government to provide adequate facilities to act as incentives. In fact, the Govt. should definitely lay down a solid policy regarding the availability of ample finance, interlinking it directly with the production of standard quality bricks. The easy availability of limited finance, from banks, or from other sources, in relation to the total production of bricks can be standardised or graduated. This can also be instrumental in stabilising the price-structure of bricks.

The justification for the present study lies in the fact that not much work has been done
in this area in a detailed and systematic manner. The present study attempts to be more comprehensive and vigorous by taking note of all the factors such as management, finance and labour. The study is divided into eight chapters, including the present one by way of introduction. Chapter II gives a brief review of literature and a comparative picture of the industry. Distinct features of the industry have also been mentioned, based mainly on the published data available from various sources.

Chapter III deals with the material and methodology used for the purpose of the study. The various terms used in the study have also been defined.

 Chapters IV, V and VI form the main body of our research. Chapter IV deals with the management of the industry. It throws light on entrepreneurial decisions influencing the performance of the managerial structure of the industry at work. Chapter V deals with finance and projects an analysis of the cost-stream and cost-structure, both of this industry and of the socio-economic process of which it is a part. Chapter VI deals with the labourers and their problems in this industry. Chapter VII presents an integrated view of the various aspects considered in the study. Chapter VIII gives the main conclusions and suggestions.