CHAPTER I

1.1 INTRODUCTION:

Whenever there is an explosion in the galaxy there is born a new star. The burstling of crackers bring happiness in the hearts of all, who witness the hypnotising display of colour and brilliance (effluence). Fireworks items of occasional use are certain forms of art and beauty, which give pleasure and enjoyment to the onlookers. They are used in every sphere of life. Commercial manufacturers invent items of fireworks, which are meant mainly for amusement. They are used during festivals and marriage ceremonies, i.e., Private and Public functions.

Fireworks include substances or devices that produce sound, smoke, motion or combination of these when ignited or activated. Thus military flares and smoke devices are also considered as fireworks (or) Pyrotechnics.
1.2 IMPORTANCE OF FIREWORKS:

During the middle ages, fireworks accompanied the spread of military explosives, westward and in Europe the military fireworks expert was pressed into service, to conduct pyrotechnic celebrations of victory and peace.

At first fireworks compositions were made the possibility to use them for military purposes than for the purpose of entertainment. Gradually as civilisation grew, fireworks assumed their own importance and utilising value.

Civilian decorative fireworks include Rockets, fountains and sparklers. Military pyrotechnic are used for various purposes, illumination devices which normally have a magnesium mixture for the filler, can illuminate a battle field for short periods. They can be activated by a tripwire, shot by artillery motors or dropped by parachute.
Fireworks form a unique part of the cultural heritage of many countries. Many of the Chinese religious festivals and social functions are celebrated with the display of fireworks. This custom has now spread among the world communities.

In our country the use of fireworks closely linked with the celebration of the most important Hindu festival - DIWALI. We can't imagine a 'Diwali' without fireworks. As long as we celebrate festivals like Diwali, Dasara and Ganesh Sathurthi, the question of demand recession of fireworks will not arise. All around us we can see a tremendous religious revival.

In many countries, fireworks form an inevitable part of festivals such as Christmas, the arrival of spring in Germany, Holyweek in Mexico, the day of saints in South America and such national holidays as the 4th July (independence day) in the United States and Bastille day in France. In Germany,
the use of fireworks by public is limited to one hour per year, i.e., between 12 midnight and 1 A.M. on the 1st of January.

Fireworks are now progressively used by farmers to scare away birds. Loss in foodgrains productivity has come to be reduced by the humble crackers. Some airports use rockets to scare away birds, which may cause great damage to aircrafts and consequently a huge expenditure. The pyrotechnology has a greater and gainful role to play in the development of any nation.

1.3 NEED FOR THE STUDY:

"SIVAKASI" occupies a predominant place in the industrial map of the Country, in view of the large scale preference of fireworks, match works and printing works industries. These industries bring name and fame to Sivakasi and also crores of rupees to the Government
exchequer, in the form of Excise duty and other taxes. Sivakasi provides employment opportunities to thousands of people in and around it. Hence it is called "MINI-JAPAN".

The majority of the people of the town have an industrial consciousness. This is the only known town where we can see boards announcing "employment vacancies."

It is very difficult to see an unemployed person here. The people employed here range from the small age of 8 years to the ripe old age of 80 Years. People employed in this area belong to both the sexes. Since the people here are always busy, active and hardworking, it is no exaggeration to christen this town in other way as "MINI-JAPAN".
With its premier position in the production of Crackers, Sivakasi has become a household name throughout the length and breadth of our Country. Business in Sivakasi improves in leaps and bounds every year. More and more of match factories and fireworks industries are coming up every year. There are 28 villages in and around Sivakasi, where people depend on the fireworks industries for their livelihood.

There are now over 300 fireworks industries in and around Sivakasi and as many as 450 store houses. The majority of the small factories work for a period of 8 months and close by "DIWALI". This industry gives employment to about 70,000 people directly and 1,00,000 people indirectly.

There are about 20,000 licensed dealers throughout India. The estimated turnover of fireworks industry is about Rs.600 millions, a year. So the Government gets crores of rupees in the form of excise
duty and sale tax from these fireworks factories. If we look at industries of Sivakasi from revenue angle, their contribution to the national income is quite commendable.

In the manufacturing of fireworks in India, Sivakasi region plays a vital role and it is so to say the nerve-knot of this business. This industry is slowly spreading to the neighbouring states, but bulk of the Country's production is made in the Sivakasi centre only. At present 96% of the total demand of our country is met by Sivakasi.

Fireworks factories have now been started at Kumbakonam and Sirkazhi in Tanjore district and Nanguneri in Tirunelveli District. There are also fireworks industries in Trichur, Gwalior, Nagpur and Sangula which meet only a partial demand of fireworks. This industry has now ceased to be seasonal industry and production is being carried out throughout the year. The production may touch a new height in the event of
the hundreds of waiting applicants being granted licence, to start this industry. But the most of the raw materials required for Fireworks Industries are available in Northern States of India only. Though this, factor would not in any way affect the large scale production.

So the researcher has to clinch the meaningful question as to how Sivakasi has become the centre of this business, inspite of the fact that the raw materials required to run this business have to be purchased from far off states. The researcher also has to ascertain the factors responsible for making Sivakasi, the hub of this business.

1.4 REVIEW OF LITERATURES:

This study is an attempt, to analyse the factors which have lead to the concentration of the fireworks units in Sivakasi. There have been many research studies on fire works. They do not have any
direct bearing on the subject of the present study. The methodology and the findings of these works are of course, quite useful in the present study.

The study already carried out on fireworks are:

1. "A STUDY OF FINANCIAL ASSISTANCE BY COMMERCIAL BANKS TO FIREWORKS INDUSTRY"

Mr. R. THICK VIJAYAN, studied the role of Banks in financing fireworks industries, with special reference to services rendered by STATE BANK OF INDIA, SIVAKASI.

2. Another study has been done by C. KAMALAI, about the "CHILD LABOUR IN MATCH AND FIREWORKS UNITS AT SIVAKASI". This study is a highlight on the role of children in match and fireworks industry.

3. Mr. LINGAM, has submitted one dissertation on the "FIREWORKS ACCIDENTS".
In this study he points out the extent of fireworks accidents and the safety measures to be adopted to avoid occurrence of fireworks accidents.

1.5 SCOPE OF THE STUDY:

This study is intended to analyse, the factors responsible for the concentration of fireworks units in large numbers in and around Sivakasi and also, to analyse the factors responsible for the phenomenal and rapid growth of this industry in this area.

1.6 OBJECTIVES OF THE STUDY:

The primary objectives of the study are as follows:

i. To identify the origin and growth of fireworks industry in Sivakasi.

ii. To assess the rate of growth from its inception.
iii. To make a note of infrastructural facilities, which have facilitated the establishment and the enormous growth of fireworks industry in and around Sivakasi.

iv. To bring on record the financial assistance rendered by the financial institutions in promoting this industry.

v. To analyse indepth the problems now and when encountered and to offer valuable suggestions to overcome such problems.

1.7 METHODOLOGY AND TOOLS:

Interview schedule was used for collection of primary data. Personal interview method was also adopted, to know the perception of respondents towards the problems faced in production. The collected data were analysed by preparing the "MASTER TABLE".
1.8 SOURCES OF DATA:

For this study, Primary data have been collected from

i. Owners of fireworks industries.

ii. Fireworks manufacturer's Association.

Secondary data have been collected from

i. District Industries Centre

ii. District Statistical Organisation

iii. Central Excise Department and

iv. Explosives Department

1.9 PILOT STUDY:

Pilot study was undertaken before framing the Interview schedule. The investigator visited the fireworks industries and observed the functioning of the industries. The investigator gathered all available resources that are necessary for the present study. Information thus gathered was used to frame the interview schedule.
1.10 TOOLS FOR DATA COLLECTION:

Interview schedule method was adopted for collecting the data. The interview schedule was formulated on the basis of the previous experience got during the visit and pilot study. Different kinds of questions were framed to elicit important information, regarding the nature of the industry and the allied issues. Some questions were framed in such a way to ensure an uninhibited response from them. In this way the first draft of schedule was prepared. The interview schedule was framed in English and the questions were asked in the regional language (Tamil).

1.11 PRE-TEST:

After the pilot study, the interview schedule was framed and was examined with the 4 fireworks industries owners in Sivakasi. Their answers were recorded and on the basis of this, the whole schedule was altered suitably, so as to make it accurate and to the point.
1.12 DIFFICULTIES ENCOUNTERED:

The following difficulties have been faced by the investigator during the data collection. A few fireworks owners were under the impression, that the investigator was a representative of the government and hence withheld a free flow of information. The investigator explained to them in detail, the purpose behind his investigation. Thereafter their response and reaction to the queries were free and fullfledged.

1.13 SAMPLING:

The investigator has found that there are nearly 270 fireworks factories in Sivakasi. All these fireworks industries have been categorised under 2 major heads. Ten percent, in each category was taken as sample units. Thus data was collected from 27 units. The investigator has adopted "Stratified Random Sampling" technique for the study. The Table 1.1 clearly illustrates the sampling procedure adopted for the study.
TABLE - 1.1

SAMPLE SELECTION

<table>
<thead>
<tr>
<th>INDUSTRY</th>
<th>TOTAL</th>
<th>SAMPLES SELECTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIREWORKS :</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small Fireworks unit</td>
<td>155</td>
<td>16</td>
</tr>
<tr>
<td>Large Fireworks unit</td>
<td>112</td>
<td>11</td>
</tr>
<tr>
<td>TOTAL</td>
<td>267</td>
<td>27</td>
</tr>
</tbody>
</table>

1.14 GEOGRAPHICAL COVERAGE :

The study includes the urban area of Sivakasi and the rural areas, covering all villages which lie within a radius of 8 Kilometres of Sivakasi.
1.15 DATA PROCESSING:

After completing a thorough checkup of the data that have been collected, a "Master Table" was prepared for the purpose of processing. For the purpose of processing, the data have been grouped into meaningful classes for further analysis and interpretation.

1.16 PLAN OF ANALYSIS:

The factors which influencing the fireworks industries were analysed with the help of the primary data.

The device "Weighted Arithmetic Mean" was used to analyse the factors influencing in the study Area.

Among the various factors 6 important factors for plant location were given in the interview
The entrepreneurs were asked to identify and rank them in the order of preference.

To find out the weighted Arithmetic mean, the following score were given.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>6</td>
</tr>
<tr>
<td>II</td>
<td>5</td>
</tr>
<tr>
<td>III</td>
<td>4</td>
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<tr>
<td>IV</td>
<td>3</td>
</tr>
<tr>
<td>V</td>
<td>2</td>
</tr>
<tr>
<td>VI</td>
<td>1</td>
</tr>
</tbody>
</table>

On the basis of the points given and ranks obtained, the total score of each factor was calculated. The total score thus derived was divided by the total number of respondents for each factor, to arrive at the mean score.
Among the 6 factors given in the schedule, the one which had the highest mean score was identified as the most influencing factor locating the plant in the study Area.

1.17 LIMITATION OF THE STUDY :

The study is exploratory in nature and hence the study is made on mainly primary data. The researcher collected the primary data, from selected fireworks manufacturers only.

1.18 OPERATIONAL DEFINITION OF CONCEPT

EXPLOSIVES :

A chemical or mixture of chemicals which can react so rapidly and the evolutions of a great deal of heat and much gas that is capable of damaging the surroundings.
FIREWORKS INDUSTRY:

Section 87 of Factories Act defines, a factory where in chemical like, pyrotechnic Aluminium powder, Salpetre or combination of these are being used for the manufacturing of crackers, sparklers and fuse.

SMALL FIREWORKS INDUSTRY:

A fireworks industry having the capacity to use the explosives upto 200 kgs per day and having a storehouse capacity upto 2000 kg per day.

BIG FIREWORKS INDUSTRY:

A fireworks industry having the capacity, to use the explosives above 200 kgs per day and having a storehouse capacity above 2000 kgs per day.
SAFETY FUSE:

A cord containing gunpowder, which transmits fire from one end to other end with specified rate.

LABOURER:

A person who is engaging in the production of fireworks in the fireworks industry.

CHILD LABOUR:

Child means, a person who has not completed his 14th year of age. According to section 67 of the Indian factories Act 1948,

Child labour is the use of children to work in factories.
1.19 PERIOD OF STUDY:

A period of five years shall be considered as a reasonable gestation period, for any small scale industry and according, the study period refers to five years from 1986-1990.

1.20 CHAPTER SCHEME:

The first chapter is intended to present a general idea of the subject matter of the thesis, the sources from which informations are collected, the method of approach, objectives of the study and the chapter arrangement.

The second chapter deals with the origin, Development of fireworks and how the fireworks industry had grown in Sivakasi. The growth of the units have been analysed by considering the various aspects that can be taken as the measure to reveal the growth.
The Third chapter is devoted, to state the factors influencing concentration of fireworks industries in Sivakasi.

In the fourth chapter Financial Assistance rendered by banks and problems of fireworks industry are discussed.

Finally, the Fifty chapter focusses its light on research findings and on suitable suggestions.