CHAPTER I

INTRODUCTION
1.1. ECONOMIC DEVELOPMENT IN INDIA:

India is rated as one of the top economies in the world in terms of purchasing power parity of the gross domestic product (GDP) by leading financial entities of the world, such as the International Monetary Fund and the World Bank.

As far as agriculture is concerned, India is the second largest in volume of output. Certain related sectors of agriculture have played a major role in the development of the Indian economy by providing employment to a number of people in the forestry, fishing and logging industries.

In 2009, the agricultural sector contributed 17.5% to the entire GDP, and more than 50% of the total labor force working in India is employed in the agricultural sector. Production volume has gone up in Indian agriculture at a consistent rate since the 1950s. Much of this improvement can be attributed to the five-year plans that were established for the development of Indian agriculture. Developments in irrigation processes, as well as various modern technologies used have contributed to the overall advancement of agricultural processes.

In the industrial arena, India is 14th in terms of volume of factory output. Various developmental initiatives are also being carried out in the areas of gas, mining, electricity and quarrying. All these sectors contribute significantly to the GDP, and provide jobs to India’s citizens.
India is regarded as the 15th best economy in terms of production in the services sector. A sizeable amount of the Indian workforce is also employed by the service sector. In the ten-year period between 1990 and 2000, the rate of growth has been 7.5%, up from 4.5% during the 30 year period from 1951 to 1980.

Information technology (IT), software development, call centers, IT outsourcing, Business Process Outsourcing (BPO) and other IT-enabled services, have been the biggest contributors in the services sector of the Indian economy.

1.2. DETERMINANTS OF ECONOMIC DEVELOPMENT:

Economic factors play a very important role in the development of a country. The aggregate output rises or falls mainly due in changes to them. The main economic determinants are Natural Resources, Capital, Labour, Power, Transport and Communication, Human Capital and Government policies.

1.2.1. Natural Resources

The natural resources are the principal factor which affects the development of an economy. If a country is rich in natural resources, it is then able to make rapid progress in growth. In case a country is deficient in forest wealth, mineral resources, water supply, fertility of land etc., it is then normally not in a position to develop rapidly.
It is also noted that presence of rich resources is not a precondition for economic development. There are countries in the world which do not have abundant resources, yet they have made rapid progress in growth by superior technology, new researches and higher knowledge. Japan, Switzerland, South Korea are resource poor countries, even though they have made rapid progress in economic growth through advanced technology and new discoveries.

1.2.2. Capital

Capital is another important factor in the economic growth of a country. It refers to the process of adding to the stock of capital over time. The stock of capital can be built up and increased through the following three different resources:-

**Act of saving:**
Saving involves the postponing of consumption whether voluntarily or involuntarily so that funds thus made available for investment. In developing countries the saving potential is low.

- Majority of the people hardly keep their body and soul together with the meager income at their disposal. Saving is a luxury and far beyond their reach.

- The middle income group attracted by the superior levels of consumption and spends the resources on consumption items like fridges, colour TV, etc. so less saving is coming from them.
• The rich section of the society spends money mostly on luxury goods, foreign travels, real estates, etc. and therefore little saving is available for investment.

The saving potential of underdeveloped countries, therefore, normally does not exceed 13% to 10% of the national income which keeps their stock of capital low.

Capital market
The capital market consists of financial institutions, like development banks, stock exchanges and investment banks. In low income countries, the capital market is less developed. As such it is not able to mobilize saving to the desired extent.

Act of investment:
In less developed countries, whatever meager saving are available with households and with the businessmen, is not all channelized for investment in capital goods. The businessmen usually hesitate to invest their resources due to political and social instability in the country, fear of nationalization of industries, limited domestic market, etc.
1.2.3. Human resources:
Human resource of a country is also equally important factor in economic development. If the population of a country is educated, efficient, patriot, skilled, healthy, it makes significant contribution to economic development. On the other hand, if a country is overpopulated, labour force is unemployed, uneducated, unskilled, unpatriotic, it can put serious hurdles on the path of economic development.

1.2.4. Power
Power resources are the foundation of economic development. They are derived mainly from two types of sources:

- Commercial – Sources are oil, gas, coal, thermal electricity and nuclear
- Non-commercial - Sources are animal power, fuel, wood, cow dung.

The power resources are vital to economic growth of a country. Its importance has been changing with the passage of time. Before industrial Revolution, the energy for operating the machines was mainly supplied by animals, human power and wind. With the scientific advancement, coal, oil, gas, and water falls are used as the principal sources of energy.
In developed countries, the nuclear power and solar energy are being increasingly used for generating electricity. The developing countries are giving highest priority to energy. Their main stress is on

- Accelerated exploitation of coal, hydel and nuclear power etc.
- Intensification of exploration for oil and gas
- Energy consideration.

1.2.5. Transport and Communication

The means of transport and communication have an important bearing on the economic growth of a country. If a country is well connected with rail road, sea ports and has a developed means of communication including information technology, it helps in improving the productive capacity of the various sectors of the economy. An efficient transport and communication network contributes to improving the quantity and quality of goods due to competition and reduction in production costs.

1.2.6. Government Policies:

Sustainable economic growth occurs because of increases in aggregate demand and supply. However, long-term sustainable growth ultimately depends on supply-side improvements because balance of payments and inflationary problems are less likely when the productivity of factors improves. Policies to promote growth include:
**Technology policy**

Technology policy refers to policies where government provides incentives for private firms to invest into new technology. These incentives could be in the form of grants, cheap loans, or tax relief.

**Human capital development**

Investment in human capital by allocating more resources to education and training is widely regarded at critical to the success of developing and developed economies. Human capital development provides key skills and knowledge to enable increases in productivity and efficiency.

**Reducing red-tape and de-regulation**

A key driver of growth for both developed and developing countries is FDI, and this can be encouraged by reducing red tape and unnecessary regulation, and opening up markets to overseas investors.

**Providing incentives**

Governments can provide incentives for individuals to start their own business and for small businesses to expand.

**Tax reform**

Redesigning the tax and benefit system to increase the labour activity rate and encourage work and discourage idleness is clearly an important option for countries wishing to improve their supply-side performance.
Increasing competitiveness and contestability

Another important stimulus to supply-side growth is to increase the degree of competitiveness in the micro-economy by promoting contestability, reducing barriers to entry, and by deregulating markets to encourage new entrants.

New markets

Sustainability can also be achieved by encouraging the formation of new markets which exploit new technology or new trading methods. The newly emerging markets for waste and carbon credits, and the development of carbon offsetting schemes, are recent examples of how new markets can emerge, with or without government support.

Infrastructure

Long-term development of infrastructure projects is also central to the promotion of long terms growth and development in a globalised environment. Better infrastructure enables output to be transported at lower cost, as well as generating jobs and other positive externalities.
1.3. DEFINITION FOR MSMEs:

According to new the Micro, Small and Medium Enterprises Development Act, 2006 the MSME Definitions are as follows:

In the case of the enterprises engaged in the manufacture or production of goods pertaining to any industry specified in the first schedule to the Industries (Development and Regulation) Act, 1951, as:

**Micro Enterprise:**
A micro enterprise is, where the investment in plant and machinery does not exceed twenty five lakh rupees;

**Small Enterprise:**
A small enterprise is, where the investment in plant and machinery is more than twenty five lakh rupees but does not exceed five core rupees;

**Medium Enterprise:**
A medium enterprise, where the investment in plant and Machinery is more than five crore rupees but does not exceed ten crore rupees.

The definition of micro, small and medium enterprises varies from country to country. In general, the industries all over the world are defined in terms of number of employees or capital investment or both.
The employment potential criterion was dropped from Indian MSMEs definition due to the following reasons:

- Employment changes seasonally and hence it is difficult to follow this criterion.
- An employment limit acts as an incentive to limit employment to remain within Small and Medium Enterprises.
- Discrimination between labor intensive and techno sophistication.

The role of MSMEs in economic development of a country can be explained with relevant parameters. “Increase in the number, production, employment, and exports over a period of time could be common parameters to adjudge the role played by small enterprises in the country.”

1.4. **ROLE OF MSMEs IN ECONOMIC DEVELOPMENT:**

Micro, Small and Medium enterprises (MSMEs) are considered as the backbone of economic growth in all countries because they account for 80 percent of global economic growth (Jutla et al., 2002)\(^1\).

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MSMEs are important to almost all economies in the world, but especially to those in developing countries and in very particular to those with major employment and income distribution challenges.

- MSMEs contribute to output and to the creation of jobs;
- MSMEs are a nursery for the larger firms of the future
- MSMEs are important for expanding micro enterprises
- MSMEs contribute directly and often significantly to aggregate savings and investment, and
- MSMEs are involved in the development of appropriate technology.

MSMEs also contribute a substantial share of the manufactured exports. In India it is 31 percent. It has a share of 40% in the industrial production. 35% of the total manufactured exports of the country are directly accounted for by this sector. In terms of employment generated, this sector is next only to agriculture employing approximately 14 million people.

MSMEs always represented the model of economic development, which emphasized high contribution to domestic production, significant export earnings, low investment requirements, employment generation, effective contribution to foreign exchange earning of the nation with low import-intensive operations. Thus, Micro, Small and Medium enterprises (MSMEs) are the important for the industrial development of the country. MSMES are also less capital intensive and suit the Indian economic environment with scarce resources and large population base.
In addition, it is highly and has a scope for labor intensive for building upon the traditional skill and knowledge. Overall, the MSMEs sector has done quite well and has enabled the country to achieve considerable industrial growth and diversification.

1.5. **STRENGTHs OF MSMEs:**

Major strength of MSMEs are flexibility, owner management, inexpensive labor, less overhead and favorable capital- output ratio.

**Flexibility:**

MSMEs can easily absorb new innovation and adapt new method. The cost of changing the existing system is also relatively less.

**Owner management:**

In MSMEs, the owner management is a possibility, which ensures quick decision making. This ensures speed and reduces red-tapism. (Dalu & Deshmuke)

**Inexpensive labor and less over head:**

The main reason for sickness of large scale industry is its labor problem and escalating wage bill. In MSMEs, strength is its cheap labor and less over-head.
Favorable capital-output ratio

MSMEs are labor intensive and through proper utilization of resources, it can keep low level of capital investment per unit of output (Gowda and Krishnamoorthy). In the Newly Industrialized Countries (NICs), MSMEs generally employ the largest percentage of the workforce and are responsible for income generation opportunities. These enterprises can also be described as one of the main drivers for poverty alleviation.

1.6. WEAKNESSES OF MSMEs:

Process of globalization has resulted in some serious constraints on the MSMEs:

Financing Problems

Financing has always been a major problem for the Micro, Small and Medium Enterprises in India. The MSMEs mostly depend on internal sources of finance like personal savings, loan from relatives and loan from local money lenders than that of institutional financing by banks and other financing institutions. The Scheduled Banks do not consider the MSMEs preferred area of investment. Traditionally, banking sector considers Small industries a risky field of investment due to reasonably low growth rate of the small firms, firms following informal business practices, inability of the MSME entrepreneurs to maintain collateral securities, lack of credit worthiness, relatively high processing cost, and poor flow of information. Moreover, incidence of Non-Performing Assets (NPA) in MSME Sector is about 15 per cent compared to about 9 per cent in large business houses.
**Bulk procurement of raw material:**

Raw material is the basic input in the production operations. The quality, cost and regular availability of such raw materials in MSMEs greatly determine the smooth and continuous production and sales and prices of their products. Thus, all MSMEs have to carefully plan for procurement and holding of raw materials they need. Such a plan has to include the identification of appropriate source and regularity of supply, the cost and holding and handling of such raw materials. MSMEs are not able to hold the sufficient raw material for continuous production and sales. The bulk purchase of raw materials supports MSMEs by producing quality product in lessor price. It is very much disheartening to note that supply situation of raw materials for MSMEs is not satisfactory.

**Extreme competition**

The MSMEs face ruthless competition from the large domestic firms and multinationals armed with improved technology, managerial ability, skilled workers, marketing skills, better product quality and wide range of products. The small firms find it difficult to maintain their existence as the cases of merger and acquisition are continuously increasing.

**Poor Technology Base**

MSMEs in India are heterogeneity. A small percentage of firms operate with sophisticated technology base whereas majority of firms use outdated technology. They suffer from low productivity and poor product quality. Due to their small size, they cannot enjoy large-scale production economies.
Lack of infrastructure
Lack of infrastructure includes inadequate power supply, transportation, water supply, etc. Small firms cannot bear the cost of setting up independent power supply unit. They have to depend on irregular power supply from the electricity boards. Inadequate transportation system increases cost of production. Morris (2001), out of 1063 surveyed firms, 716 firms (more than sixty-seven percent) confessed that they have serious infrastructural problems.

Lack of Skilled workers
Though India has no shortage of human resource, most of them are unskilled workers. Large firms pay higher remuneration and employ skilled workers. The MSMEs have to operate with unskilled or semi-skilled workers. Thus, the MSMEs suffer from low managerial capabilities.

Marketing and Distribution Problems
Marketing is probably the most neglected and less explored problem for Micro, Small and Medium Enterprises. Most of them do not have any well formulated marketing strategy, market research programmes, innovative advertisement techniques, etc. Most of the MSMEs do not have adequate monetary support to develop marketing section and many are not aware of modern low-cost marketing techniques like blogging, sending mails, developing website for their company and their products.
Delayed payments

The MSMEs find it difficult to recover their dues from the large firms and even from government departments due to complex payment procedure and corruption. Due to lack of funds, they cannot employ credit collection machineries like factoring services. The large firms force them to offer long credit period and even pay advance to ensure timely supply of materials.

Gradual withdrawal of Reservation Policy

Reservation Policy, introduced in 1967 emphasized that some products would be earmarked for exclusive production by the small enterprises and Non-MSME units can undertake manufacture of reserved items only if they undertake 50 percent export obligations.

Withdrawal of reservation policy allowed MNCs and large domestic firms to produce reserved items without any restrictions and increased the degree of competition for the small firms. However, Several Expert Committees like Abid Hussain (1995), Shri T.S. Vijayaraghavan (1997), Confederation of Indian Industries (CII) (1997) etc concluded that reservation policy is no longer helpful for MSMEs as MSME units with no reservation facility have performed better than those units with reservation support. Moreover many MSMEs do not produce the reserved items and many MSME Entrepreneurs do not consider it a relevant policy.
Mindset Problems

The mindset of the many MSME entrepreneurs has not yet changed. They still expect protection policies and preferential treatment for the MSMEs. Fortunately, this tendency is low in the new generation entrepreneurs. Workshops, success story based approach may help reduce this tendency even more.

Outflow of wealth

Globalization process seems to favour the developed countries and the multinationals more than that of developing countries and the MSMEs. The MNCs use domestic wealth, infrastructure, and local unskilled workers at a lower cost and repatriate huge profits to their own countries.

More prone to global fluctuations

A well liberalized economy reacts more sharply with the changes in global market. The demand and supply would be determined by global fluctuations and not by the needs of the consumers.

Social welfare areas neglected

The MNCs are more willing to produce consumer goods to maximize their profit. The qualitative services like health, education etc which require huge investment but generate less and time taking return on investment, would be neglected.
Cluster approach to address the issues of MSME:
Thus, the cluster development approach holds the key to growth of the MSME sector. Clusters help in overcoming the challenges of obsolescence, bulk purchase of raw materials, sophisticated technology, skill levels, quality and credibility of MSMEs in India. The concentration of largely homogenous enterprises within a relatively limited geographical area facilitates the intervention because of their similarity of needs and support requirements, speeds up the dissemination of best practices because of the pervasiveness of demonstration effects, and allows for a distribution of the fixed costs of interventions among a large number of beneficiaries.

1.7. CLUSTER – DEFINITION:
Porter (1998) defines clusters as “Geographic concentrations of interconnected companies and institutions in a particular field, linked by commonalities and complementarities.” However, his definition is focused only about commonalities. In reality, the term “cluster” is often used in different ways by different authors. Martin and Sunley (2003, p. 16), argued that the cluster concept has acquired such a variety of uses, connotations and meanings. However, causality may not be clear. Clusters might make firms more productive and thus more competitive, but more productive and competitive firms might come together to form a cluster. For example, Duranton (2009, p. 32) found a wide variety of conceptualizations of clusters, some of which focused entirely on inter-firm relationships and some of which included much broader links:
• Krugman, (1991): New economic geography: Clusters as co-location decisions of firms due to increasing returns to scale, lower costs of moving goods across space, etc.

• Rosenfeld (2005): Clusters “are simply geographic concentrations of interrelated companies and institutions of sufficient scale to generate externalities.”

• Cortright (2006): “An industry cluster is a group of firms and related economic actors and institutions, that are located near one another and that draw productive advantage from their mutual proximity and connections”.

• Glaeser and Gottlieb (2009): “People cluster in cities to be close to something. At their heart, agglomeration economies are simply reductions in transport costs for goods, people, and ideas” (p.1005).

• Marshall (1890): Clusters as external economies created by labour market pooling and the benefits of moving people across firms, supplier specialization, knowledge spill-overs.

• Porter (1998): “Geographic concentrations of interconnected companies and institutions in a particular field, linked by commonalities and complementarities”. It includes linked industries and other entities (suppliers), distribution channels and customers (demand), related institutions (research organization, universities, training entities, etc) (Porter (2000), p.254 for definition)
• Saxenian (1994): Clusters as social and institutional phenomena: technological change, organizations, social networks, and other non-market relationship in which markets are embedded: organization within and between businesses, relationship among firms.

• Hill and Brennan (2000, p. 67-8) defined “a competitive industrial cluster as a geographic concentration of competitive firms or establishments in the same industry that either have close buy-sell relationships with other industries in the region, or share a specialized labour pool that provides firms with a competitive advantage over the same industry in other places.”

Michael Porter, Joseph Cortright and others, define “clusters to consist of firms in a region producing similar or related products, utilizing similar processes or engaging in similar functions, the regional suppliers and customers of these firms, specialized labour skills possessed by workers in the region employed by these firms, public and public-private programs that provide services to cluster members (e.g., customized training by community colleges), and institutions (e.g., universities, community colleges, industry and trade associations, public and private sector organizations) whose presence or interaction, to the extent it exists (i.e., the extent of interaction is an empirical question), results in cost-savings to firms and/or knowledge spill over that produce cost savings and/or product or process”.

20
As the above discussion reveals there is no uniform definition of cluster concept. Clusters can be understood as phenomena that refer to production system(s), or, to social networks and interactions among actors within geographically defined areas, or, as structural phenomena. Nonetheless, there is a common core to the concept.

1.8. CLUSTER DEVELOPMENT – CONCEPTS:

Micro, Small and Medium enterprises operating in the same or inter-related industrial sectors tend to concentrate in specific geographic locations. This phenomenon has been observed in all parts of the world. There are sound economic reasons for this phenomenon (Krugman 1991). Micro and small units operating in such clusters derive a clear competitive advantage from:

- The proximity to sources of raw materials and other inputs,
- The availability of suitably customized business development services (BDS),
- The abundance of clients attracted by the cluster tradition in that industry, and
- The presence of a skilled labour force.

A ‘cluster’ may, therefore, be defined as the agglomeration of SMEs producing same/similar products/services or engaged in the same line of manufacturing activities or services, located within an identifiable and, as far as practicable, contiguous area.
Micro, Small and Medium enterprises (MSMEs) play a leading role in propelling economic growth sustaining livelihood and in promoting equitable regional development. The MSEs constitute over 90% of total enterprises in most of the developing economies and are credited with generating the highest rates of employment growth and accounting for a major share of industrial production and exports.

1.9. IMPORTANCE OF CLUSTERS
Audretsch and Aldrige, 2008 stated that capacity to generate local knowledge spillovers and development of local skills as factors of innovation and growth. Focus on innovation as a key driver of economic growth renewed importance of geographical clustering and agglomeration of firms. It has been argued that innovations are geographically conditioned since spillover of knowledge is geographically constrained. Interactions between firms and institutions that generate and share different types of knowledge relating to products, processes, markets and technologies lead to creation of new - tacit - knowledge that is not freely available on the market. When tacit knowledge materializes in innovation, the region experiences higher growth as the national average and companies gain important competitive advantages over their outside competitors. Tacit knowledge, however, can only be generated by personal contacts which further reinforces geographical concentration of innovation. The more knowledge is tacit the more proximity matters. The learning process is facilitated by mutual trust and forms of interactions as a consequence of geographical proximity - clustering.
Empirical evidence suggests that innovation processes are indeed localized due to the presence of agglomeration economies (OECD, 2010; Audretsch, D.B. and P.E. Feldman, 1996, Acs, 2002). As a consequence, clusters from the policy point of view gained new focus - how to leverage the role of clusters as drivers of innovation.

Parallel to the increased focus on innovation, the work of Michael Porter (1990; 1998) induced policy makers at regional, national and international scales to become particularly concerned with the promotion of business clusters (Cumbers, et al. 2008, p. 300).

Lately, the importance of the role of collaborative relations and geographical proximity in stimulating innovation process due to local embeddedness of knowledge-specific local knowledge-creation framework (knowledge specific to locality) has been questioned in literature (Simmie, 2008, p.26-9).

Globalization and emergence of macro regions undermine the role of local clusters. The important is that they are connected to the global networks of production. Also Porter in his more recent work gives international linkages as opposed to local connections within local clusters greater weight as a source of competitive advantages.
Therefore, he argues, that export-oriented clusters are for the most part those that drive regional prosperity (Porter, 2003). This calls for international cluster cooperation, which in turn can also catalyze the development of stronger and larger regional and sectoral grouping with increased competitive potential. The positioning of regional/local clusters into global networks became a policy issue in its attempt to leverage the beneficial role of clusters for economic development. Increasing attention as an explanatory factor of innovation are receiving urbanization economies, i.e. the role of large cities and metropolitan areas as innovation hotbeds, inspired by the work of Jacobs (1960) and later on by Florida (2003).

Urbanization economies arise from the heterogeneity/diversity of economic activities located in these areas, which are external to the industry and its firms. They are reinforced by both effective business services infrastructure and education and R&D infrastructure supporting companies growth and global success, and can be most often found in large cities and metropolitan areas. Clustering of firms in large cities or metropolitan areas is therefore, to a large extent, the result of these existing infrastructures and not only agglomeration economies of proximity. Urbanization economies are sometimes used as an argument against specialized clusters as cities with very diverse industrial structures tend to be on the national average more prosperous in terms of economic growth and job creations than specialized industrial clusters (Glaeser, et al., 1992, Feldman, 2000 in Desrochers, et al., 2008, p. 238; OECD, 2010).
Theoretical underpinning and empirical evidence on clusters as drivers of innovation, competitiveness and growth have greatly influenced policy makers.

1.10. CLUSTER DEVELOPMENT IN INDIA

The Ministry of Micro, Small & Medium Enterprises laid special emphasis for development of clusters and launched a scheme for technology upgradation and management called UPTECH in 1998. Although it was having a cluster based approach for development of MSME’s, it was mainly technology focused comprising of a diagnostic study, setting up of a demonstration plant and organizing workshops, seminars, etc. for quicker diffusion of technology across the cluster of small enterprises.

In August 2003, the scheme of the Ministry of Micro Small and Medium Enterprises was renamed as Small Industry Cluster Development Programme (SICDP) and made broad based by adopting a holistic pattern of development of the cluster encompassing marketing, exports, skill development, setting up of common facility centres, including technology upgradation of the enterprises etc., SICDP guidelines were comprehensively, revised in March 2006 making the cluster programme more broad- based by facilitating substantial economics of scale in terms of deployment of available resources in the medium to long term. Government of India’s assistance under the scheme was enhanced upto Rs.8 crores per selected cluster to support soft as well as hard intervention, including setting up of a common facility centre.
In India, at present, there are about 138 major clusters which are engaged in specialized industrial sub-sectors such as:

- Locks at Aligarh
- Leather footwear at Agra and Kanpur
- Cotton hosiery at Calcutta and Delhi
- Blankets in Panipat
- Power looms at Bhiwadi
- Diesel engines in Rajkot
- Diamond polishing in Surat

Space bound "dense clusters" related to a specialized industry are even more pronounced in the State of Punjab with woolen garments, bicycle and bicycle parts, sewing machine parts and machine tools in Ludhiana; printing and printing goods, water pipes and bathroom fixtures in Jallandhar; foundries in Batala, etc. Of these, the one at Ludhiana is one of the very successful clusters, having a wide range of diverse products building on "mechanical" skills, which include sewing machines parts, bicycle and bicycle parts, auto parts components and machine tools.

Ludhiana is also better known as the Manchester of India, which alone contributes to the production of 95% of the country’s woolen knitwear, 85% of country’s knitting machines and 60% of the nation’s bicycles and bicycle's parts. Agra cluster makes 0.15 million pairs of shoes per day with a production value of 1.3 m US$ and exporting shoes worth US $ 57.14 million per year (Juneja, 1998).
Knitwear cluster in Tiruppur, Tamil Nadu is responsible for 85% of Indian Market and its export earnings have expanded from US$ 25 million in 1986 to US$ 636 million in 1997. What is interesting about Tiruppur cluster is that it is organized in a web of small work places through which the entire town works like a living industrial organization (Chari, 2000). Here, the researcher presented the three detailed case studies of clusters relating to Diesel Engines in Rajkot, and Gems and Jewelry Cluster in Surat, and Ceramics Cluster near Ahmedabad, all located in the Gujarat region in India.

**Case - 1: Diesel Engine Cluster-Rajkot, Gujarat, India**

Rajkot Diesel Engine Industry is the leader in Indian Diesel Engine market with more than 60% of India's total diesel engine production. It accounts for around 0.3 million diesel engines per year valued around Rs. 2500 million with sizes from 3.5 HP to 20 HP. Majority production is in the range from 3.5 HP to 8 HP.

The industry is made up of small-scale manufacturers and has about 400 foundry units. Their annual production is more than one hundred thousand tones of casting. It employs more than 40,000 workers. The cluster is a network of units manufacturing different components of the diesel engines and the units assembling the components to get finished products.
Thus the network of states (Tamilnadu - Coimbatore, 5 % Punjab - Few pockets) of the above State's concentration, Rajkot in Gujarat is the major production center of slow speed Lister type diesel engines and caters to the irrigation demand, which constitute 75% production of Lister type diesel engines and remaining 25% goes for other purpose like concrete mixtures crushes, sugar cane crushes, flour mills, etc. Interviews conducted with the selected entrepreneurs (fifteen) associated with this cluster highlighted a number of features:

- The entrepreneurs are working without any support from the outside sources for incremental technological inputs.

- Their knowledge loop / network is limited to entrepreneurs themselves, and try to find solutions to their problems from inside.

- Improvements were made based on the knowledge and information available within the cluster.

- For acquisition of new knowledge an association called Rajkot Engineering Association (REA), helps to keep them updated with the latest information and also takes care of raw material supplies and bulk buying.

- Major use of the cluster is made for the maintenance of relationship and but ironically shall not share information or knowledge.
• The family will not share any new information with the other family groups, which may also be the part of the same cluster.

• The entrepreneurs in the cluster belong to the same community or class or caste due to which they follow similar type of business policy and overall business pattern (Phansalkar, 1999).

There is competition, conflict, rivalry and cooperation all together in the day to day business. The strong sense of family, and cast, and linguistic and regional identities greatly influence the determination of business objectives and focus. Due to this community-caste- linguistic groups of entrepreneurs competing with each other, the result is an imperfect market nurturing dominant coalitions of firms by particular communities.

**Case 2- Diamond Processing Industrial Cluster- Surat, Gujarat**

Gems & Jewelry (G&J) is another industrial cluster in Gujarat, which has displayed great innovation at small enterprise level. G&J industry is second largest foreign exchange earner in India and concentrated in south Gujarat with number of small scale units engaged in diamond processing, doing innovations locally to serve 80% of world’s diamond market. The total export by this segment in the year 1999-2000 was approx. US $ 6500 million, which is about 16% of India’s total exports of US $ 35 billion. The industry has been growing at 15-17% annually since last few years.
The G&J industry in India is structured as diamonds, jewelry and precious/semi precious stones. These segments are further divided into sub segments. However, diamonds dominate the total G&J exports and contribute US $5.5 billion, which means about 81% of the total exports by the industry. It is labor intensive and employs over 1 million people, which indicates its massive socio-economic impact on Indian sub-continent. The industry is mainly fostered in Gujarat, Maharashtra, Uttar Pradesh, Rajasthan, Tamil Nadu, West Bengal and Kerala. In this Diamond has lion’s share in Indian G&J exports. Export of cut & polished diamonds is almost 81% of total gems & jewelry exports. India is considered to be one of the world’s largest centers for cut & polished diamonds. Indian cut & polished diamonds account for about 45% of international diamond production in value terms & 70% in terms of carats. It is the main center for processing of diamonds, i.e., making cut & polished diamonds from roughs, processing about 100 million Carats of rough diamonds against the world’s total output of 117 million of rough diamonds. Out of every batch of 10 diamonds made in the world, 7.5 are made in India. It shows that India has established itself as the world’s largest diamond processing center.

In India, the diamond processing units are mainly located in Gujarat, particularly in Surat, Navsari and some parts of Sarasota & north Gujarat region. About 80% of country’s diamond processing work is being done in Gujarat, out of which more than 50% is conducted at Surat only, and is thus also known as the diamond city of India.
According to the survey conducted at Surat by Keyoor Purani (2000), there is high amount of innovation in this cluster. The innovativeness is characterized as under:

- The diamond industry has developed unique aspects in developing Dynamic/ Diverse (D/D) product-mix to meet worldwide demands, customer tastes & preferences.

- Product innovations have been made by improvement in its cut, carat, color and clarity. Through unmatchable skills in cutting & polishing, there have been a variety of new cuts the Indian industry has been able to produce.

- India which uses non-perfect diamonds like polycrystalline, macle, distorted crystals, 'near gems' or 'near industrials', processing is not easily amenable to automation in contrast to Israel and has developed machinery to suit these applications as also to take advantage of cheap skilled labor.

- Indian entrepreneurs have, to their credit, indigenously developed laser kerfing and sawing machines.

- The entrepreneurs have unique way of acquiring skills. The skills are passed on from generation to generation and identification of roughs, cutting, polishing and even marketing skills are inherited by people from their senior family members by 'learning by doing'.
• Thousands of small units work in cooperation. As 95% of the units are clustered around Mumbai & Surat, they are more complimentary than competitive.

**Case 3-Ceramic Clusters, Ahmedabad**

There are 950 Ceramic units in ceramic clusters in Gujarat and all are family based. Most of these clusters are poor in knowledge but have high entrepreneurial spirit. To serve these cluster units and to cater to the needs of the developing ceramic industries in the small-scale sector of Gujarat and adjoining areas, Central Glass & Ceramic Research Institute (CGCRI) Naroda Centre, Ahmedabad, one of the constituent laboratories of the Council of Scientific and Industrial Research (CSIR) was established in 1977. To improve the skills in these units, training and manpower development programme were initiated in 1978.

The Institute has so far conducted 32 technology development programmes and has trained about 600 artisans from the cluster. It has also conducted three entrepreneurship development programmes for encouraging new enterprises. The clusters at Morbi, Himmat Nagar and Mehsana etc. have benefited a lot in technology development from CGCRI, in terms of improving the quality of the raw materials for the manufacture of ceramic tiles, rural pottery and in improving process control parameters.
Some of the important achievements of the Institute are:

- It has been able to use the Fly ash (a highly polluting waste product of thermal plants) in the manufacture of Ceramic tiles. Ceramic tiles now contain 30% of the raw materials as fly ash.

- It has also been able to produce blue ceramic tiles, which are free from lead.

- Ceramic filter candles have been developed which also contain 20-30% of fly ash.

- Cotton wick of the kerosene oil lamp has been replaced by the permanent ceramic wick, which need not be replaced at all.

- It has developed the technology for production of Bone China utilizing the China clays of Gujarat. This technology has been transferred to 21 units in the small-scale sector including M/s. Anil Ceramics, Mori; M/s. Hitari Ceramics, Himmat nagar; the 'Sonya Ceramics' in Ahmedabad and M/s Ideal Ceramics, Delhi. The training of the workers is carried on the site, which has received very encouraging response.
The case studies above bring out that the cases of 'Gems and Jewelry' in Surat and 'Ceramics' in Ahmedabad, conform to the ideal picture of a cluster i.e. these are engaged in sharing of knowledge, skills, materials, equipment, finance and management to be innovative and internationally competitive. But in the case of Rajkot diesel engines, it was not active in terms of generation and acquisition of new knowledge which is necessary for constant technological change and innovations.

Maggioni (2004) differentiates location benefits into geographical and agglomeration benefits, whereby geographical benefits are unaffected by the number of existing firms, but agglomeration benefits depend on the number of incumbents.

1.11. HISTORY OF THE SAFETY MATCH INDUSTRY

Safety matches industry has made rapid strides over the years. It is an essential item used by the common man and much of the demand is met by the production from small and tiny safety match units. It is one of the industries creating mass employment opportunities to more than 2.5 lakh persons, both directly and indirectly, mostly in the rural and semi-urban areas. There are more than 5000 plus units in India.

The per capita per day consumption of matchstick, which was 4, has now increased to 12 per day. 95% pf the safety match manufacturing units are housed in south India. Major chunk of units is in handmade sector. This industry was a t peak at once.
There were more than 10000 units in India. Now this has comedown to 5000 and odd. This is mainly due to gradual phasing out of handmade sector. The phasing out was initiated by the typical traders and the handmade sector is in the jaws of mechanized / partially mechanized safety match manufacturing sector. A variety of matches are being made now-a-days throughout the world.

Safety matches manufacturing in India are of the standard type with wooden veneer or cardboard boxes and wooden splints. Generally, the type of safety can be classified into three:

1. Wooden matches / Match box veneer
2. Card Board Match box
3. Wax Matches / Match box

Each safety match box contains 40 to 50 splints. Other types of matches produced include promotional safety matches containing 10 to 20 sticks and fancy advertisement matches made to the buyer’s specifications. Basis of raw materials the level of production and process is slightly variance.

There are two main types of matches:

- Safety matches, which can only be struck against a specially-made surface and
- Strike anywhere matches, for which any rough surface can be used.
In the period of 1950’s Lucifer Match Industry and Bharat Match Industry, the first and the foremost unit of South India which was established in Sivakasi. It was faced a very tough time between 1965 to 1975, and there was a scarcity for raw materials and red phosphorus. Hence in 1971, the red phosphorus processing units were started in Sivakasi and spread over to the neighbourhood Sattur and Kovilpatti.

1.12. STRUCTURE OF THE SAFETY MATCH CLUSTER

The structure and relative position of the safety match industry reveals the fact that they are pyramid in nature and having 4 tiers. The tier 1 is determinate by mechanized sector. There are 4 mechanized units in Tamilnadu. Of which 3 are in Virudhunagar District. The total production of this sector is estimated as One Crore bundles.

The tier II, 140 semi mechanized or partially mechanized units are at person functioning in this sector. The strong presence of such small scale safety match manufacturing units are witnessed in this tier. It was reported that semi or partially mechanized units are mostly concentrated in Sivakasi, Kovilpatti, Kazhugumalai regions.

The tier III, is being dominated by traders cum manufactures. The presence of middleman exploits the handmade sector. The trader cum manufactures act as a middle man and outsource the end products at a very nominal price and sell the products in different brand names at a higher prices.
The tier IV, The handmade/cottage sector involves totally manual operations and production less than 75 million match sticks per year and is household based at about 2 lakh workers both directly and indirectly in India. A number of operation in the production process can be easily undertaken at home.

1.13. SAFETY MATCHES MANUFACTURING CLUSTERS IN SOUTH TAMILNADU

The Safety match manufacturing units are concentrated in South Tamilnadu and Gudiyatham in North Tamilnadu.

A cluster diagnosis on pilot basis was conducted in Virudhunagar, Satur, Kovilpatti, Sivakasi regions wherein 80% of the safety match manufacturing units are concentrated. The study was undertaken at the behest of the secretary, small industries Department Government of Tamilnadu.

1.14. MAJOR PROBLEMS FACED BY THE HANDMADE SAFETY MATCH CLUSTER

The safety match Cluster is well known for cheaper and mass production. The status of the cluster reveals the presence of strong skilled female-dominated workers at the bottom rung and rich traders cum manufactures in the middle and big presence of semi and partially mechanized sector and fully automated units at the top.
This industry is now in the grip of few leading small and semi-mechanized manufactures and traders. Sourcing prices of Raw materials is the hindering factor. The price of white matti has increased manifold. It has increased many folds within 6 months. This sector is to depending Kerala for sourcing of raw materials.

**Production Related Issues**

**Inconsistency in quality:**
Non uniformity in quality of the products manufactured is a major problem faced by the handmade sector. Whereas the products manufactured by the organized small and semi-mechanized units are unique in nature. They have achieved uniformed in head chemical with the support of dipping machinery. Once the dipping operation is over, the major portion of the dipped splints is being sent for filling and labeling and packing to the handmade sectors.

**Low Productivity level:**
Due to obsolete technology and handmade operation mostly by the family members or by unskilled labourers, the productivity level is very low.

**Domestic demand driven:**
The sector has relatively low export orientation (less than 10% of output). It is the protected domestic market that has been largely targeted till date. Replacement demand is an important component.
Inability to compete with the mechanized sector:
As illustrated, the entire sector is being dominated by groups of companies and it is in the threshold of big 18 groups. They are the market leader. The handmade units are not in a position to compete with mechanized sector. The units in this sector are used to manufacture 10 to 15 bundles per day against the visible level of 25 bundles per days. As a result the handmade sector is not in a position to achieve break even and could no able to compete with the mechanized sector.

Over dependence on traders:
Procurement of Raw materials has posed serious problem to the handmade sector. The organized units used to procure almost all the raw materials directly. The intervention of traders in the business operation is very less. As in the same of the handmade sector, the situation is entirely different. The handmade units are in the clutches of middlemen. In case of the white matti, the splints, is used to procure from traders who work also as middleman between main manufactures and end users.

Poor customer perception:
The customers do not have any perception on brand image. Most of the customer needs safety match for lighting the fire. Innumerable brands flooded in the market.
Poor and obsolete Technologies:

The technology adopted by the handmade sector is so simple and the technology involved in all the stages right from the waxing of splints, wax penetration, head fixing splints after head fixing, drying, filling and packing are manual. Hence it absorbs more number of labours.

Stagnated Product Pricing:

Yet another hindering factor is stagnated price. The prevailing cortal type of operation is the main reason for low price penetration and low level price rigidity. The price of the raw materials has been increased into many folds. However, the end product price is almost same for the years together. Such a stagnated product pricing has eroded the profit margin. The organized small and semi mechanized units are enjoying economics of scale in their operation and mass production by these sectors is the other disturbing factor. The increasing overhead cost is the order of the days. The poor handmade sector is not enticing profit. The tiny units formed to sell their products at very low price as compared to their competing suppliers in order to get the gain in the market.

Taxations and regulations:

The taxation and regulations are the only forces, which have been protecting the handmade sector ever since the business was in motion. However, the big giants are controlling the power. The excise rate revision and sales tax structure are now longer protecting this sector.
The differential treatment and ‘kid clove” attitudes of the government are not even sufficient for their very survival of this sector. The Present VAT system has also affected this sector. Though there is no VAT for Safety match products, the VAT imposed on raw materials like white splints, wax and Phosphorus Sulphur Oxidative Chemicals.

**Illegal Operation and high mechanization:**
The machine made sector is illegally encroaching the handmade sector. It is reported that the mechanized units are indulged in illegal trade practice. This sector is used to supply the semi-finished products. i.e after waxing and dipping to the handmade sector for filling and packing and labeling operation. After packing, the finished products are being collected by this group. It is totally illegal and against the spirit of the safety matches policy.

**Labour shortages and shifting of occupation:**
Shifting of occupation is witness in this sector. Labour is presently not as easily available as it once was. The changed life style, high wage rate offered by readymade garment units and other industrial sector, and contact labours engaged by organized safety match units by attracting some pecuniary incentives are the major reasons for shifting of labour force from handmade sector.
Policy support is no more favourable for Handmade sector:
Though the policy measures are favourable to handmade sector for several years, the recent policy mechanism has favoured only mechanized sector. The ever increasing cost of inputs, especially after imposition of VAT system, has adversely affected the handmade sector. This industry really needs ‘discrimination of trade practice’ for few more years. The government should contemplate a progressive supporting mechanism to protect this sector.

Competitive Enhancing Initiatives:
Preventive competitive enhancing exercise and initiatives are very week. It may be pursued.

Splints:
The quality of splints decides the quality of matchbox. The handmade sector is dumped with poor quality of splits. About 10% to 15% are not usable by the consumer as the sticks are broken or do not carry flame during usage. Defective logs with twists and knots are also used. Furthermore, semi-hand wood like rubber with latex is used for splints that do not carry flame. Attention has to be given for procuring quality raw material. The sourcing of splints is the major threat to this sector in near future. It is the high time that the consortium may be formed and the consortium may be allowed to start splints processing plants in the State of Kerala based companies is dominating the cashew industry in Kanyakumari.
Almost all the small cashew processing units are being leased by the Kerala based companies in Tamil Nadu. Similarly, the Tamilnadu based entrepreneurs or Kerala settled Tamilian may also be encouraged to start splints making units in Kerala. Further, the department of forest and biotechnology department of Agriculture university and research institutes may be involved to develop or identify new species suitable for manufacturing splits. White and Yellow matti Plantation may be carried out in the Western Ghats as farming activities in the Tamil Nadu by offering necessary incentives and subsidy to the grower in a mass level.

1.15. GENERAL PROFILE OF STUDY AREA

Virudhunagar district was carved on 15th March 1985 by trifurcation of the composite Ramanathapuram district with headquarters at Virudhunagar. The district lies between 55.00 Degree and 77.00 Degree of the eastern longitude and between 9.00 Degree and 55.00 Degree of the northern latitude. It has an area of 4243 Sq Km and is bounded on the west by Kerala State, on the north by Madurai and Sivaganga district, on the east by New Ramanathapuram district and on the south by Tirunelveli and Tuticorin districts. Virudunagar is a small town located at a distance of 45 Kms South-West of Madurai. This place was once referred to as 'Virudupatti'. In the beginning of 20th century A.D., Virudupatti was one among the six important places of Ramanathapuram District. Due to the rapid growth in the field of Trade and Education, it was renamed as 'Virudunagar' on 29th October 1923. The term ‘virudu’ means ‘Award’ in Tamil.
The people of this community migrated to improve their business status and settled in Virudunagar during 19th century A.D. Virudunagar exports all kinds of oil to Dubai and Srilanka and also exports Cotton, chilli, spices, cardamom to USA and Singapore. Virudunagar is a famous business centre without markets. The Business people of Virudunagar play an important role in price fixation of consumer products. Hence there is a popular saying, "virudunagar produces nothing but controls everything".

1.16 PRESENT STATUS OF THE CLUSTER:

Virudhunagar District is basically an Industrial District. The dominating activities are Matches, Fire works, Printing, Readymade Garments, Rice Mills, Oil Mills, Tin Containers, Corrugated Boxes, and Textile Units.
The promote the needy Industrial units in Virudhunagar District, some clusters have been identified and the clusters have been developed and assisted by both Government of India and Government of Tamil Nadu.

The Present scenario of the clusters is as given below.

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Line of Activity</th>
<th>Year of Idea</th>
<th>Year of Commencement</th>
<th>Present Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Handmade Matches</td>
<td>2006</td>
<td>2009</td>
<td>Three Clusters in Virudhunagar, Sattur and Srivilliputhur are functioning profitably.</td>
</tr>
<tr>
<td>2.</td>
<td>Printing Cluster</td>
<td>2010</td>
<td>Yet to be started</td>
<td>Machinery installed. Awaiting for power connection and other clearances.</td>
</tr>
<tr>
<td>3.</td>
<td>Readymade Garments</td>
<td>2011</td>
<td>Yet to be started</td>
<td>Proposal accepted by Government of Tamil Nadu of Government of India.</td>
</tr>
<tr>
<td>4.</td>
<td>Handmade Matches Cluster at O.Mettupatti</td>
<td>2012</td>
<td>Yet to be started</td>
<td>Government of Tamil Nadu has approved the project and forwarded to Government of India.</td>
</tr>
</tbody>
</table>

From the above it is seen that only the three Matches Clusters have been started and functioning. Hence only the Matches Clusters functioning in Virudhunagar and Sattur, Srivilliputhur have been taken for study.

The three safety match clusters situated in Virudhunagar, Sattur and Srivilliputtr have been supported under MSE-CDP scheme of Government of India and Government of Tamil Nadu. They are all successfully functioning. RM bank was created within the cluster.
The Special Purpose Vehicle (SPV) of 3 clusters have imported from Raw Material bank from up countries and necessary tie-up arrangements have been established with Chennai Petroleum Corporation Limited (CPCL) for procurements of Grade II wax. Common Brand created by them. Efforts are taken to plant white matti plant in order to meet the soft wood requirements of the safety match industry.

Safety Match manufacturing cluster is an artisan type cluster with about 2000 plus handmade safety match manufacturing units in each growth centre located at Virudhunagar, Sattur, Kovilpatti Kalugumalai, Srivilliputtur and Gudiyatham. The industry has generated employment to about 2.5 lakh people - both direct and indirect. These artisan type clusters are unable to withstand the threshold of competition emerged from the mechanized players. Hence, it was decided to form small groups and establish Common Facility Centres (CFCs) in the above 6 growth centres. With the active cooperation and support from Government of India and Government of Tamil Nadu, 6 consortia have been constituted by groups of likeminded entrepreneurs; each group having 25 to 35 members. The All India Federation of Cottage Matches Manufacturers’ Association, Virudhunagar has played a proactive role for strengthening the Clusters by encouraging all the players in the cluster to catalyze their synergies in specific areas like marketing, investment and technology transferring process, modernization, etc. Prior to formation of these consortia, the small players were being exploited.
Setting up of Common Facility Centres (CFCs) is the tool to enhance the capabilities of the Micro and Small players and this was possible only through cluster initiatives. The cluster mechanism evolved has created a synergy among safety match clusters under community movement to scale up their operation.

**Location of the CFCs**

The handmade safety match industries are predominately concentrated in the Southern part of Tamilnadu. It is an artisan type cluster and about 2000 Plus handmade safety match units are in the growth centres viz, Virudhunagar, Sattur, Kovilpatti Kalugumalai, Srivilliputtur and Gudiyatham providing employment opportunities to the extent of 2.5 lakh people both directly and indirectly for their very survival.
1.17. CONCEPTUAL FRAMEWORK ON CLUSTER

An Illustration of Internal networks Inside and External Networks of a Cluster

The concept of clusters goes back to Alfred Marshall (Marshall, 1919). Marshall considered knowledge as the most effective driver of economic development which is generated and accumulated not only on the level of firms but also by interactions of firms in the sector and among sectors.
In 1890, Marshall coined the term 'industrial district' observed that agglomeration of firms, geographical proximity of firms within the same industry generate external economies of scale available to all firms in a given area. These economies occur since special agglomeration provides a pooled market for workers with specialized skills, facilitates the development of specialized inputs and services and enables firms to benefit from technological spillovers. Interactions between firms can be informal or formal, along the value added chain or among firms between different sectors. These economies are external from individual firm perspective and internal from geographic agglomeration perspective, independent of a single firm but occur to all the firms located in the same area.

The benefit of these externalities, Marshall elaborated, is not only lower cost of production, but even more important is that interactions between firms generate new knowledge. By increasing the available stock of knowledge that manifests itself in new products, processes and services innovation, these externalities significantly contribute to economic development. His observation of industrial districts has drawn attention to intangible dimensions of localization of small firms driving economic development and to the importance of clustering for boosting regional economic growth.
Afterwards, especially since the early 1990’s, there has been a growing interest leading to a vigorous debate in the regional/urban planning, business administration, economics and economic geography literature on the role of collaborative relations and geographical proximity in stimulating innovation process and this in turn competitiveness and economic growth (Cumbers, et al., 2008 in Karlsson, 2008).

In the late seventies and the eighties, the advantages of clustering and agglomeration became an important academic discussion as a result of a new production paradigm 'flexible specialization'. It is a consequence of technological advances, stimulated by the development of computer based technology (Acs and Audretsch, 1987; Drucker, 1985; Brich 1989; Piore and Sabel, 1984).

When production systems are based on small highly specialized firms in a particular process or phase of production, clustering of small firms is said to be particularly important in helping to offset the size-related advantages of large firms. Industrial clustering creates competitive advantages of small firms located in proximity due to external economies of scale resulting in a lower cost of production i.e. efficiency externalities as well as from interactive learning processes i.e. innovation externalities.
Porter defines business clusters as “geographic concentration of interconnected companies, specialized suppliers, service providers, firms related industries and associated institutions” (1198, p.197). He also explained that areas with industries entrenched in wide and deep clusters are more competitive than others. Agglomeration of rivals, customers and suppliers reinforces the competitive climate within the cluster which in turn promotes innovation and competitiveness of cluster firms even further.

This approach suggests that competitiveness can be amplified by the quality of an area’s business environment and the presence of strong clusters. Porter advocated cluster policy against the industrial policy, with its inherent danger of picking the winners, as a policy, which should be aimed at ‘removing obstacles, relaxing constraints, and eliminating inefficiencies that impede productivity and innovation in the cluster’ (Porter 2000, p. 26).

Porter’s approach to clustering as a process that can be harnessed at a local scale and that interventions made on this level are capable of influencing global competitiveness (Peck and Lloyd, 208, p.395) was largely embraced by policy makers.

Malmberg and Maskell (1997, p. 29) observed that “knowledge tends to become embedded, not only in individual skills and in the routines and procedures of organizations, but in the milieu as such, or rather in the relations that connect different firms to each other and to the wider institutional context”.

51
Creation of learning process depends on the local specific social and cultural conditions that facilitate sharing of ideas and create business opportunities (Peck and Lloyd, 2008, p. 394).

An extensive research of clustering of small highly specialized firms supported this theoretical debate and reinforced the importance of cluster concept for attaining competitive advantages of small highly specialized firms (Best, 1990; Becattini, 1989 and 1990; Brusco, 1982 and 1992).

Theoretical debate as well as academic research on the advantages of collaborative relations and geographical proximity in stimulating innovation was amplified further by the findings of new growth theory.

1.18. STRUCTURE OF THE STUDY:

Chapter 1 – Introduction:
This chapter attempts to cover the Economic Development in India, Determinants of Economic Development, Definition for MSMEs, Role of MSMEs in Economic Development, Strengths of MSMEs, Weaknesses of MSMEs, Cluster – Definition, Cluster Development – Concepts, Importance of Clusters, Cluster Development in India, History of the Safety Match Industry, Structure of the Safety Match Cluster, Safety Matches Manufacturing Clusters In South Tamil Nadu, Major Problems Faced by the Handmade Safety Match Cluster, General Profile Of Study Area, Present Status of the Cluster and Conceptual Frame Work on Cluster.
Chapter 2 - Review of Literature:
This chapter brings out an illustrative list of earlier works done in the research area with the challenges of MSMEs and Cluster Development.

Chapter 3 - Research Methodology:
This chapter deals with the Research design, data collection method, limitations of the research study.

Chapter 4 – Analysis:

Chapter 5 - Summary of findings:
This chapter deals with the summary of findings analyzed in this thesis

Chapter 6 – Recommendations and Scope for further research:
This chapter deals with the summary of recommendations and scope for further research.

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