

Entrepreneurship Development through Cluster Concept: An Overview of Available Literature

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Abstract

This paper analyses the evolution of the concept of industrial clusters and its impact on development of entrepreneurship in micro small and medium enterprises sector, a cog in economic development of a nation, through mushrooming the literature of related studies. Clusters are the outcome of the economies of agglomerations. Clusters provide benefits such as easy access to market and skilled labour, knowledge spill overs, flexible specialisation, and reduction of transaction cost which one can exploit to be an entrepreneur. A wide variety of definition and methodological approaches for identifying clusters are proposed by relevant literature on industrial clusters. This paper will stress upon primarily to highlight the analysis of past and present approaches of industrial cluster concept and then it tries to make relationship between clusters and entrepreneurship based on available literature. This paper is to be organised into four sections. Section I is introductory in nature, section II outlines the evolution of industrial clusters concept, the impact of clusters on entrepreneurship will be highlighted in the section III and section IV will remain for making conclusions.

Section I

1.1 Introduction

Now-a-days industrial cluster has emerged as a strategic mechanism for the promotion of entrepreneurship development in MSMEs in worldwide. There is evidence that MSMEs have been contributing significantly to the economy worldwide but this sector has been facing challenges to make itself a globally competitive. Cluster approach has the capacity in creation of favourable framework conditions of economic activity to the MSMEs towards improving their performances and competitiveness. The difficulties faced by most of the SMEs such as lack of finance, technology, market due to their small size and isolation can be minimized through the benefits of geographical proximity, which cluster provides by opening up the door of collective efficiency. In the word of Porter, clusters makes an influence on competition by increasing local productivity, by driving the pace and direction of innovation and by stimulating the formation of businesses. These benefits may attract new one to make entry in the businesses as an entrepreneur in one side and one can use these benefits for up scaling their small units and combat the challenges of the globalised economy in other side.

Clusters are the outcome of the economies of agglomeration. Clustering is a process of strengthening regional competitiveness and innovation within the business of MSMEs by which it promotes socio-economic development within the region as an alternative developmental economic instrument to the micro, small, and medium entrepreneurs. There is evidence that the benefits of industrial clusters attracted most of the researchers, academicians, etc to make research into clustering not only in developed countries but in developing countries too. The inspiration to research into clustering in developing countries is made from the success stories of the industrial districts / clusters in developed countries. In the word of Porter, clusters dominate the today's economic map of the world. He opined that clusters are striking features of virtually every national, state, even, metropolitan economy. Enright (2001) opined that industrial district and clusters are widespread in many different countries and industries. The examples of globally recognised clusters are film industry in Hollywood in USA and Bollywood in Mumbai, Wine industry in California, information technology in Silicon Valley, Boston and Bangalore, ceramic tile and leather and footwear industries in Italy, automobiles and engineering industries in southern Germany etc. One will find positive impact of clusters in fostering entrepreneurship which was observed in the study made by various academicians namely; Rocha and Sternberg (2005), Delgado, Porter and Stern(2010) etc.

1. 2 Objectives of the Study

Recognising the importance of clusters in promotion of economic development of a region by stimulating the entrepreneurial activities, the objectives of this paper is to analyse the evolution of the concept of clusters in worldwide and the role of clusters in development of entrepreneurship in micro small and medium enterprises sector through mushrooming the available literature of related contemporary studies and researches.

1.3 Methodology

This paper is a literature review in nature, mainly based on the contribution of the different economists, academicians, geographers in the relevant field. This paper is designed in consultation

with the published articles, theories, books and journals. Contribution of different academicians, economists and their valuable opinion in this regard are taken into consideration.

Based on the available literature of related studies this paper is organised in four sections. Section I which is already discussed as introductory in nature. The section II outlines the evolution of industrial clusters concept. In the section III stress will be made to highlight the impact of clusters on entrepreneurship and section IV will remain for making conclusions.

Section II

2.1: Evolution of Cluster Concept

The origin of industrial cluster concept has evolved from the idea of the classical and neo-classical theory of different economists, geographers; namely, Location Theory of Johann Henrich Von Thunen (1826), Agglomeration Theory, Marshall's Industrial District Theory, Industrial Complex Theory of Alfred Weber(1909), and the significant contribution of Michael Porter relating to industrial cluster theory in his world famous book 'The Competitive Advantage of Nations' in 1990 is considered renaissance in shaping the today's industrial cluster theory. The studies of the classical economists in the period of nineteenth century in regard to the spatial economics and the localization of industries paved the way for the concept of industrial clusters.

2.2: Location theory

An integral part of spatial economics is concerned with the geographic location of economic activity which mainly focused on where and why specific economic activities are located. It is based on the argument of optimum location of industry/firm for achieving the maximisation of profit.

Modern Location economies began with Johann Henrich Von Thunen, a German Economist who developed first the spatial economy, representing the theoretical step in studying of the spatial aspects from economy in his work 'The Isolated State' in 1826. Von Thunen in his conceptual model Stressed upon three factors such as the production, markets and transportation cost. In the era of globalization, these factors still act as powerful factors for the location of global production.

General theory of industrial location developed by Alfred Weber, a German economist, in 1909 in his book entitled "Theory of the location of Industries" taking into account the several spatial factors for finding the optimal location and minimal cost for manufacturing plants. According to him transport cost differential, labour cost differential and agglomeration economies and diseconomies are the three fundamental location forces. Weber's Least Cost theory emphasized that industry choose the place for location where it can maximise its earning as profit by minimising its costs.

Marshall in his famous book "Principles of Economics" first referred the concept of 'Industrial District' which was based on the importance of external economies, for understanding the development of agglomerated clusters of small and medium sizes firms. The two dominant features of Marshallian's industrial district are high degrees of vertical and horizontal specialization and heavily dependence on market mechanism for exchange. The concentration of Small and medium firms, specialising in different stages of the same production process, in the same locality, for enjoying the same economies of scale that only large companies normally get, is called an 'Industrial District'. The benefit of external economies which is emerged from the close proximity of actors, in the process of economic activity was the main focal point of Marshallian's concept. His concept suggests that all firms and businesses belong to the same industry sector and proximity of firms in the same industry increases the innovation abilities of that locality. The result of which is that every

one of that industrial district involved benefits from spill over of specialised knowledge. Such localisation economies which are external to the firm are internal to the industry, being a function of the scale of the industry at the localization.

The external economies which foster special cluster formation according to Marshall are three types: (i) economies resulting from access to a common labour market and shared public goods, such as infrastructure, (ii) economies from saved transportation and transaction costs (iii) economies from spill over. That is why Marshall opined in his book 'Principles of Economics' (Book 4, chapter x) that "When an industry has thus chosen a locality for itself, it is likely to stay there long; so great are the advantages which people following the same skilled trade get from near neighbourhood to one another. The mysteries of the trade become no mysteries, but are as it were in the air". Marshall viewed that various causes led to the localisation of industries, among these, the physical conditions such as climate and availability of raw materials is considered as chief cause of localisation.

Marshall's concept of industrial district is pioneer one, on the basis of which various cluster theories were reframed and highlighted the different roles and functions of industrial clusters. The economic conditions that foster the development of industrial district in Great Britain recurred in roughly in the same manner in Italy in the period of 1954-1975. Marshallian concepts have been followed to explain the success of small firms in the Italy which were described as Marshallian industrial district. Becattini (1989; 1991) argued that industrial district could be regarded as a "Creative milieu".

However Becattini (1990b, p38) viewed that mere agglomeration of firms is not enough for denoting an industrial district but other conditions such as attitudes and values of local population are also important in determination of positive performance. His view highlighted that industrial districts are socio-economic systems joining together a community of people with common values, culture and economy (market). The social relations between clusters member was not considered in Marshall's model as per observation of Becattini (2001) and Sforzi (2002). According to them social relations among community members played important role in the success of clusters in the rural areas of Italy, the Emilia-Romagna region.

The theorist of Industrial Complex Analysis explains the emergence of large assembly of industrial plants and related industries and their installation in certain locales in countries around the world. Walter Israd (1956) developed the theory of Industrial Complex Analysis to make a systematic and comprehensive attempt at a general theory of location where he opined that the determinants of production activities are the successive influences of scale economies, localisation economies, and urbanization economies. According to him localisation economies obtain when plants of similar or related character (generally within a given industry) come together on a particular location. Such economies stem from the exploitation of a common resource pool, joint utilization of specialised facilities and infrastructure. In the word of Israd Industrial Complex is "a set of activities occurring at a given location and belonging to a group (sub-system) of activities which are subject to improve of production (technological), marketing or other inter-relations". Locational inter-dependence is the glue that binds the complex together as per opinion of Israd.

Marshall's concept was also reinterpreted by recent economic geographers (Krugman'1991a, b; Fujita et al., 1999 and Thisse, 2002). The source of industry agglomeration according to Krugman (1991b) is demand linkages among firms. Porter's (1990) theory of industrial cluster concept today is widely accepted worldwide. He introduced the concept of cluster in his book "The Competitive Advantage of Nation" where he showed how cluster not only reduce transaction cost and boost efficiency but improve incentives and create collective assets in the form of information, specialised

institutions and reputation among others. He used the Diamond shaped diagram which is based on four main pillars namely; factors conditions, demand conditions, related and supporting industries; firm strategy structure and rivalry, as the determinants of national advantage.

The root of cluster concept lies with the agglomeration theory which has appeared from the study of concerned literatures. There is no unanimously accepted definition of industrial clusters but one will find that different scholars and practitioners have conceptualised clusters differently from the definitional point of view. Industrial cluster concept divided conceptually in three categories (Chen, 2005).

Table 2.2.1: Industrial cluster concept divided conceptually in three categories

Category I	Category II	Category III
Industrial cluster based on the theoretical principles of localization economies.	Industrial cluster definitions derived mainly based on inter-industry relationships found in input-output tables	Industrial cluster concepts which encompass the widest spectrum of arguments explaining why establishments group in geographic proximity, including economies of localization and urbanization, internal return to scale, value chain linkage, and technology innovation among others
Alfred Marshall is the pioneer in this field and other contributors worked in this field are Rosenfeld,1995; Schimz and Nadvi, 1999; Swann and Prevezer (1996)	Czamansky(1974, 1979); Roepke et al. (1974) Bergman and Feser (1999'2000).	Porter's theoretical approach. (1990,1998)

According to Rosenfeld, (1997) "A cluster is concentrations of firms that are able to produce synergy because of their geographical proximity and interdependence, even though their scale of employment may not be pronounced or prominent."

Swann and Prevezer (1996) defined cluster as "groups of firms within one industry based in one geographic area".

Morosini (2004) defined cluster as "socioeconomic entity characterised by a social community of people and a population of economic agents localised in close proximity in a specific geographic region".

Hill and Brennan (2000) noted industrial cluster as "concentration of competitive firms or establishments in the same industry."

Brenner (2004) defined a local industrial cluster as "an industrial agglomeration that caused by local self augmenting processes".

According to Feser (1998) Economic clusters are not just related and supporting industries, but rather related and supporting institutions that are more competitive by virtue of their relationships.

Cooke and Huggins (2002) opined that clusters are geographically proximate firms in vertical and horizontal relationships, involving a localised enterprise support infrastructure with shared developmental vision for business growth, based on competition and cooperation in a specific market field.

Roelandt and den Hertag (1999) Clusters can be characterised "as network of producers of strongly interdependent firms (including specialised suppliers), linked each other in a value adding

production chain”. Member firms of an industrial cluster locate in close proximity to each other is called a regional cluster (Enright). According to Krugman (1991) clusters are not seen as fixed flows of goods and services, but rather as dynamic arrangements based on knowledge creation, increasing returns and innovation in abroad sense. Krugman (1991) opined clusters as co-location of firms due to increasing return to scale, lower costs of moving goods across space, etc.

Porter (1998) defined cluster as “Geographic concentration of interconnected companies and institutions in the particular field”. He redefined the cluster concept in the year 2000 “as a geographically proximity group of interconnected companies and associated institutions in a particular field, linked by commonalities and complementarities and defining it boundaries that can range from a single city or state to a country or even a group of neighbouring countries”.

The analyses of Krugman and Porter’s add to the economic relations and flows of goods the process of innovations that takes place inside the cluster through the transfer of information, know-how and experience.

UNIDO defines Clusters as concentration of Micro, small and medium enterprises on a given geographical location that produce same or similar type of products or services and face common opportunities and threats.

Government of India has introduced the cluster development programme by accepting the recommendation of Abid Hussain committee in 1997 for support to small and medium enterprises. Clusters according to the clusters related schemes adopted by MSME Govt. of India.

i) Micro and Small enterprises – Cluster Development Programme (MSE-CDP):- a cluster is a group of enterprises located within an identifiable and as far as practicable contiguous area and producing same/similar products/services.

ii) Scheme of Fund for Regeneration of Traditional Industries (SFURTI): Definition of “Traditional Industry Cluster” in the context of SFURTI refers to a geographical concentration of around 500 beneficiary families of artisans / micro enterprises, suppliers of raw materials, traders, service providers, etc. located within one or two revenue sub-divisions in one or more contiguous District(s).

iii) Babasaheb Ambedkar Hasta Shilpa Yojana (AHVY):- Agglomerations are having 100 artisans. The cluster has been defined as an area which has a minimum of 25 families practicing handicrafts as a major source of economic activity.

It is highlighted from the above discussions that there is a debate among the academicians in the definitional point of view of industrial clusters but the root of industrial clusters lies with the agglomeration theory. The essence of industrial clusters is to provide economic advantages is the common phenomenon of every definition.

Section III

3. Clusters And Entrepreneurship Development

Before making relationship between clusters and entrepreneurship it is necessary to understand about the entrepreneurship. One will find vast body of literature on entrepreneurship focusing on the view point of different discipline contributed by the experts of different fields namely, economics (for example Kirzner,1973, Schumpeter,1934), Management (for example Drucker,1985.), Social science (for example Swedbegr,1993) Anthropology (for example Fraser,1937) etc and as such there lies ambiguity in the definitional point of view of entrepreneurship but from the starting of civilisation entrepreneurs have been acting through the system of barter and exchange. The word ‘entrepreneur’

derived from the French word 'entreprendre' the meaning of which is 'to undertake' was acknowledged at first by Richard Cantillon in eighteenth century, as a key economic factor who, bearing risk and uncertainty, equilibrates supply and demand in the economy. 'Innovation' is the hall mark of entrepreneurship according to Schumpeter. Innovation occurs when entrepreneur introduces a new product, new production method, opens up of a new market, finds out new source of supply of raw materials, introduces new organization in any industry and that is why entrepreneurship in the eye of Schumpeter is a 'force of creative destruction'. Drucker (1985) opined in the similar line viewing that 'entrepreneurship is an act of innovation'. Entrepreneurs continuously seek opportunities to minimise costs (Marshall, 1964). This opportunity recognition is also viewed by Kirzner (1985). It is also viewed that entrepreneurs are the agents who act for value creation (Jean Baptiste Say, 1815, 1996) and venture creation (Smith, 1967) and Gartner (1985) defined entrepreneurship as creation of new businesses. Though different views on definitional aspect of entrepreneurship are highlighted but there is no doubt that root of entrepreneurship lies with the creation of business by exploiting available opportunities.

The view point of this paper is that how clusters stimulate in enhancing the creation of new enterprise in the MSMEs sector, as economic growth is highly correlated with entrepreneurship in micro small and medium enterprises sector, due to worldwide its recognition as engine of the growth. It is also a fact that clusters facilitate in enhancing the economic growth of a region by stimulating the economic activities. Industrialisation offers more economic activities, especially in the case of developing country, MSMEs play a vital role to remove the regional disparities and strengthen the regional economy by using the local resources i.e. Physical as well as human resources.

In fostering entrepreneurship clusters create three important mechanisms, namely, established relationships, legitimation and complementary linkages which increase the perceptions of opportunities, facilitate the transfer of necessary resources to exploit these opportunities and encourage the motivation and decision to start a new business due to the higher probability of role models within clusters (Rocha and Sternberg, 2005).

Clusters open up the door of collective efficiency which is the growth path of small scale industry (Schmitz, 1995) that individual firm can rarely gain (Chawla, 2011). Medhe (2012) observed the positive growth rate in the clusters of micro and small furniture manufacturing firm, working in informal economy in Tanzania which has occurred due to collective mechanisms promoted by clusters.

Potter (2009) argued that clusters stimulate entrepreneurship and innovation because as clusters facilitate localised positive externalities in labour market pooling, input-output linkages and knowledge spillovers in a study of the Minalogic cluster of Grenoble-Isere (France) a globally renowned cluster specialising in research, development and product design in the sectors of micro- and nanotechnologies and embedded software. Rocha (2002) opined that clusters contribute to entrepreneurship with the interaction between the geographical, inter-firm network and inter-organizational network dimensions.

According to Porter, (2000) Clusters create an appropriate environment for new starts up for a variety of reason. The inducement to entry often is greater within the cluster due to better information about opportunities. Individuals working in or near the cluster more easily perceive new gaps in products, services or suppliers to fill. Entrepreneurs working within a cluster can easily perceive unsatisfied needs in their geographical area. The needed assets, skills, inputs and staff are

readily available at the cluster location .One can establish a new enterprise by using these available opportunities. Porter also argued that clusters provide lower entry barrier and can reduce the perceived risk of entry which fosters the creation of new firms.

Baptista (1996) argued that technological innovation is the heart of the dynamic process of cluster growth, accessed by new firm entry and incumbents' growth.Arthur1990 argued that strong clusters tend to attract more firms, and regions with strong innovative record have an advantage in achieving more innovation; they are self-fulfilling and path-dependent. Innovative activity and output are positively correlated with new firm entry and productivity growth (Swann et al, 1998).

Pe'er and Vertinsky (2006) observed that clustered firms had higher survival rates than non-clustered firms in their study of new entrepreneurial entrants in the Canadian manufacturing sectors from 1984 to 1998.Wennberg and Lindqvist (2010) argued that clusters do provide economic benefits for newly started entrepreneurial firms in studying the effects of clusters on the survival and performances of new entrepreneurial firms in Sweden.

Saxena, (2009) in his study opined that clustering approach in SME may reduce the internal competition by establishing mutual trust among them. The unique opportunity provided within the microcosm of a cluster to the individual – SMES collocated is that they can explore, analyze, understand and experiment with strategies to counter internal competition. Clusters facilitate one to learn shifting mechanism for moving from a 'piece based competition' to a 'pricing based competition' and 'price based competition' to 'product based competition'. Chawla, (2011) focused that cluster related policy, support and developmental interventions have a significant impact on the functioning of local industrial milieu and as well as on macro level. Cluster approach is the answer of the micro and small enterprises to the large scale sector of the country and the world. The better performances of micro enterprises in wooden clusters in Zimbabwe in compared to isolated enterprises was found by Kamoyo et.al(2014) and there appears positive growth effects in clustered firms due to economies of scale but due to lack of capacity building entrepreneurs in clusters could not be able to exploit the gains accrue from clustering in competitive financial advantage and training.

It is observed from the above discussion of available literatures that cluster approach attracted many researchers due to its capacity in regard to the promotion of entrepreneurial activities which considers the growth path of economic development.

Section IV

4. Conclusion

It appears from the above study that unanimously accepted definition of an industrial cluster is yet to be found but group of firms, businesses are co-locating in a same geographical proximity to enjoy agglomeration economies found to be a common phenomenon. Under such circumstances it will be appropriate to say that the two main pillars of cluster concept are traditional location theory and agglomeration theory on which it is built upon. Today's modern shape of clusters is to be found in the Porters contribution but his theory is stemmed from Marshall's industrial district concept theory and based on Marshallian's concept of industrial district and considering non economic factors ,many academicians reinterpreted and rediscovered the definition of industrial cluster. What Porter calls an industrial clusters the economic geographer named it the industrial district, industrial complex and so on. But whatever name it is, the role of it in respect of economic development remains same.

The positive correlation between the clusters and entrepreneurship is found in developed countries such as in USA, (Delgado, porter and Stern, 2010) Germany (Rocha and Sternberg, 2005) UK (Potter, 2009). Most of the clusters in developing and under developed countries found to exist in early stage of industrialisation which produce for local market, using low and simple technologies mainly based on labour intensive and these micro enterprises belong to unorganised sector but generate employment and income for the poor which stimulates the informal economy of that region. Such type of clusters were reported by Dawson (1992) Kumasi cluster in Ghana, micro enterprise clusters in Kenya referred by McCormick (1999), Agra shoe cluster in India mentioned by Knorringa (1999) garment cluster in Lima, Peru (Visser, 1999) which are few examples of employment generation capacity of microenterprise clusters. The presence of good number of export oriented clusters in MSMEs in developing countries such as Tirupur in India for Garment, Sialkot in Pakistan for surgical instruments, Ludhiana, India for woollen knitwear, Pala valley, India for leather tanning and their stimulating capacity for economic development attracted the policy makers, government to bring most of the MSMEs under the umbrella of cluster approach. The benefits accrue from clustering foster entrepreneurship by helping newly started firms. (Wennberg and Lindqvist, 2010). The above analysis highlighted the recognition of clusters in stimulating the high tech as well as low tech MSMEs not only in developed countries but in developing countries too. As most of the MSMEs in developing countries belong to informal sector, depending on inherent skill and knowledge (education level is quite low) follow the Low- Road Approach and cannot keep pace with the competitive market, cluster policy along with proper initiation of the respective agencies in regard to provide training and credit facilities to the entrepreneur may bring new dawn to the entrepreneurship of MSME sector.

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Cluster And Entrepreneurship Development: An Analytical Study In The Light Of MSME

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Abstract

The paper aims at analysing the industrial cluster concept and its role on entrepreneurship development in India's MSME sector. The 'industrial district concept' of Alfred Marshall is considered as the root of cluster concept. Clusters are the outcome of the economies of agglomerations. The cluster approach has widely accepted in worldwide as a strategic mechanism for accelerating the growth and competitiveness of micro and small enterprises in the present globalised economy. The success story of Italian industrial cluster experience has incited the policy makers of developing countries to accelerate the growth of small scale industries by adopting cluster approach. Over the decades cluster policy has been introduced in India by accepting the recommendation of the 'Expert Committee Report on Small Enterprises' headed by Abid Hussain to provide a boost in the small scale industry sector of the country as a whole. The increasing trend of industrial cluster between the 3rd census of SSI and 4th census of MSMEs in India indicates the urgency of cluster

approach. Porter and Delgado, (2010) opined in favour of clusters, pointing out the positive relation between the clusters and entrepreneurship. In the light of the above, the present paper, based on secondary data, highlights the role of industrial cluster in accelerating the growth of entrepreneurial activities in Micro enterprise sector in India to expedite the growth of national economy. This paper is to be organised into four sections. Section I deals with the introductory theme of this paper along with review of literature and methodology. Section II deals with a brief exposition of cluster policy approach as adopted in India with special emphasis on the policy as followed and practiced. The role of clusters on development of entrepreneurship in MSMEs of India will be highlighted in the section III and section IV will remain for making conclusions.

1. Introduction

Cluster approach has been emerged as a strategic mechanism to revitalise the small scale industry sector in the global scenario. It is a matter of concern that worldwide in general, and developing countries in particular; there are some constraints to the MSME sector to keep pace with the large scale/ multinational companies and create hindrances to make them a globally competitive in the era of globalisation though this sector is a significant contributor to the economy. The cluster approach makes the way of MSMEs easy by minimising the constraints in respect of small size and isolation, through the benefits of geographical proximity. In the word of Porter, clusters makes an influence on competition by increasing local productivity, by driving the pace and direction of innovation and by stimulating the formation of businesses. The benefits derived from cluster promotes the new entrants in the businesses as an entrepreneur in one side and existing entrepreneurs by using such benefits, may upscale their small units and make them capable to combat the challenges persist in the era of globalisation in other side.

Clusters are the outcome of the economies of agglomeration. Clustering is a process of strengthening regional competitiveness and innovation within the business of MSMEs by which it promotes socio-economic development within the region as an alternative developmental economic instrument to the micro, small, and medium entrepreneurs. The journey of industrial cluster has been started from the inception of industrial district concept of Marshall in developed country and the success story of Italian industrial cluster experience has attracted the policy makers of developing countries to introduce this approach for the development of MSMEs.

Table 1: The examples of some globally recognised clusters

Clusters in Developed countries	Clusters other than Developed countries
Film industry in Hollywood in USA	Film industry in Bollywood, India.
Wine industry in California	Information technology in Bangalore, India.
Information technology in Silicon Valley,	Surgical Instrument in Sialkot,

Boston.	Pakistan.
Ceramic tiles, Leather and footwear industries in Italy	Footwear in Agra, India.
Automobiles and Engineering industries in Germany	Woolen Knitwear in Tirupura, India.
	Footwear in Sinos valley, Brazil

2. Review Of Literature

Several studies in developed countries observed the positive effect of clusters in fostering entrepreneurship, such as in USA, Delgado, Porter and Stern (2010), in Germany (Rocha and Sternberg, 2005) and in UK (Potter, 2009).

Pe'er and Vertinsky (2006) found that clustered firms had higher survival rate than non-clustered firms in their study of new entrepreneurial entrants in the Canadian manufacturing sectors from 1984 to 1998. The opinion of Arthur (1990) suggests that strong clusters tend to attract more firms.

The studies in the developing and under developed countries found the early stage of industrialisation in most of the clusters. The clusters in developing and under developed countries follow the low road approach. These clusters are micro enterprise clusters belong to informal sector, produce for local market, using low and simple technologies but these clusters have the capacity to boost the informal economy by generating employment and income for the poorest of the poor . The reflection of the above information was made from the study of Kumasi cluster in Ghana by Dawson (1992), micro enterprise clusters in Kenya by McCormick (1999), Agra shoe cluster in India by Knorringa (1999) and garment cluster in Lima, Peru by Visser, 1999.

Schmitz (1995) opined that clustering opens up efficiency gains that individual firm can rarely attain. Specially, in case of India, Chawla, (2011), Fabio Russo (1990), Saxena (2009), Clara, Russo and Gulati (2000), opined in favour of cluster approach for promoting entrepreneurship in MSME sector. Clara, Russo and Gulati (2000) emphasized that small scale enterprises support institution can operate more easily within a cluster because of the proximity of homogeneous firms. Cluster can enhance these advantages by Pooling and framing dispersed knowledge, augmenting the availability of social capital, investing on capacity building, which ultimately provides benefit to promote Micro entrepreneurship.

3. Objectives Of The Study

Considering the worldwide recognition of cluster approach in stimulating the entrepreneurial activities, the paper stress upon to analyse the status of the cluster approach in the field of Indian MSMEs. The objectives of this paper is to draw an outline about the industrial clusters in India, and analyse the role of clusters in entrepreneurship development of India's micro small and medium enterprises sector.

4 Research Methodology

This paper is an analytical one, based on the secondary data. The collection of secondary data was made from the 3rd census of SSI, Government of India, and 4th census of MSME, Government of India. This paper is designed in consultation with the published documents, various reports published by Government of India and available literatures.

5. Exposition Of Cluster Policy Approach

The SMEs have been acting as engine of growth not only in India but for the whole Asian region. About 70% of the employment growth in the Asian region comes from the SMEs sector. The annual Report of MSMEs 2014-15 discloses that total number of 48.86 million enterprises have been working in India, generating employment for 111.41million persons. The annual average growth rate of India’s MSME exports is found 11% during the period 2007-2011.

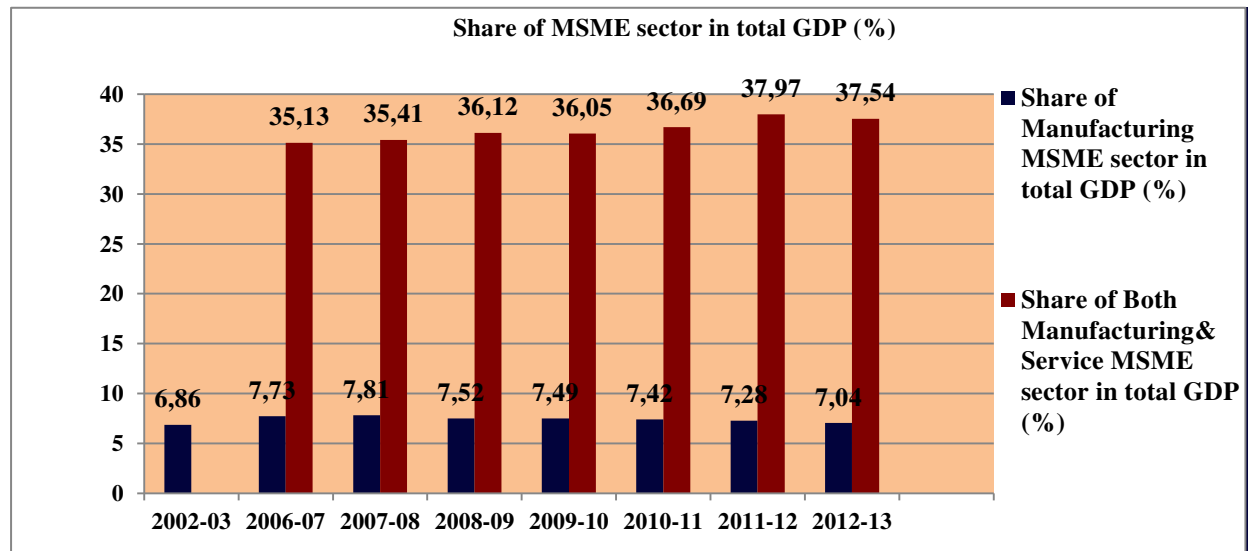


Chart-1: Share of MSME sector in total GDP (%)

Source: Annual report 2014-15, Ministry Of MSMEs GOI

The above chart-1 discloses the significant contribution of MSMEs in country’s gross domestic product. In the year2002-03 contribution of SSI in country’s gross domestic product was 6.86%

Over the past five decades, several policies namely Industrial Policy Resolution (IPR), 1956, Industrial Policy Statement of 1977, Industrial Policy Statement of 1991, were taken by the Government of India to protect the interests of the SSI sector and make this sector globally competitive but desirable outcome was awaiting and in 1995 the Government of India, constituted an "Expert Committee on Small Enterprises" under the chairmanship of Abid Hussain to review the existing policies in the changing global economic scenario and this committee recommended the cluster approach as a tool for revitalise the small industry. There is an evidence of century old clusters in India but this approach was not initiated then by the government or its agencies sponsored Scheme. In

the late 1980s as an institution the State Bank of India has taken up the cluster Development Project called 'SBI Project UPTECH' based on select thematic areas such as technology or quality up-gradation. The State Bank of India initiated cluster Development Project in 1987, keeping view the objectives to upgrade the businesses of small enterprises including their management processes, quality, technology and markets. and soon followed by SIDBI through their Technological Up-gradation Fund Scheme (TUFS) in 1991.

United Nations Industrial Development Organisations (UNIDO) has come forward and made a study for identifying clusters in India in the year 1996 and 138 Traditional manufacturing & Micro Enterprises clusters were mapped.

Several institutions other than SBI, SIDBI and UNIDO have taken cluster development initiatives in India. Development Commissioner (MSME) , National Bank for Agriculture & Rural Development (NABARD), Textiles Committee, Technology Information, Forecasting and Assessment Council (TIFAC), Khadi and Village Industries Commission (KVIC), National Institute for Small Industry Extension Training (NISIET) [supported by DC(MSME)], Entrepreneurship Development Institute of India, MSME Foundation (An EDI initiative with support of UNIDO).

Several schemes and programmes were launched by the different Ministries and Departments of Government of India and its agencies as well as by the state government and its institutions Pursuant to implement the cluster development programme.

Table 2: Cluster Development Schemes/ Programmes in India

Schemes/ Programmes launched by different Ministries of government of India					
A.	Ministry of Textiles, Government of India				
Name of the Scheme	Year of inception	Name of the Institutions	Focus of the Scheme	Typology of Cluster assisted	
1	Baba Saheb Ambedkar Hastshilp Vikas Yojna	2001-02	DC, (Handicrafts), Ministry of Textiles.	Development of Handicrafts clusters.	Handicrafts
2	National Programme for capacity building of textiles SMEs through cluster based approach	2002	Textiles Committee, Ministry of Textiles	Capacity Building	Textiles (Handloom & Powerloom)
3	Integrated Handloom Cluster Development Scheme (IHCD)	2005-06	D C, (Handlooms), Ministry of Textiles	Development of Handloom clusters	Handlooms
4	Scheme for Integrated Textile Parks (SITP)	2005-06	Ministry of Textiles	Infrastructure	Textiles (Handloom & Powerloom)
Ministry of MSME, Government of India. SICDP renamed MSCDP					
5	Micro and Small Enterprises Cluster	1998	Development Commissioner	Productivity and competitiveness	Traditional manufacturin

	Development Programme (MSECDP)		(MSME), Ministry of MSME		g & Micro Enterprises
6	National Programme for Rural Industrialization(NPRI)	1999-00			Micro Enterprises
7	National Small Industries Corporation (NSIC)	2002-03	National Small Industries Corporation	Machinery and Equipment	Traditional manufacturing
8	Scheme of Fund for Regeneration of Traditional Industries (SFURTI)	2005-06	Khadi and Village Industries Commission and Coir Board under the Ministry of MSME	Productivity and competitiveness	Micro Enterprises
Ministry of Commerce and Industry, Government of India					
9	Industrial Infrastructure Up gradation Scheme (IIUS)	2004-05	Department of Industrial Policy and Promotion, Government of India	Infrastructure	Traditional manufacturing
B. Other Institutions					
10	UNIDO Cluster Development Programme, Delhi.	1996			
11	SBI Project UPTECH	1987-88	State Bank of India	Technology	Traditional manufacturing & Micro Enterprises
12	SIDBI Technological Up-gradation Fund Scheme (TUFS)	1991	Small Industries Development Bank of India (SIDBI)	Competitiveness	Traditional manufacturing & Micro Enterprises
13	NABARD Cluster Development Programme	2003-04	National Bank for Agriculture and Rural Development	Competitiveness	Micro Enterprises, Handloom & Handicraft
	NEDFI Cluster Development Programme	2004-05	NEDFI		Micro-enterprise
14	UNIDO Cluster Development Programme, Orissa	2005			
15	SIDBI-Financing and Development of SMEs	2006-07	Small Industries Development Bank of India	Credit	Traditional manufacturing &

			(SIDBI)		Micro Enterprises
16	NMCC-Project Vikas with support from Microsoft	2006-07	National Manufacturing Competitive Council	Competitiveness	Traditional manufacturing
C. State Governments					
17	Scheme for Assistance to Cluster Development Industries	2000	Commissionerate, Government of Gujarat	Competitiveness	Traditional manufacturing & Micro Enterprises
18	Boosting employment through Small Industries Development	2000	International Labour Organisation (ILO)	Health & Hygiene	Traditional manufacturing & Micro Enterprises
19	Margin Money Scheme for Cluster Development Activities	2003	Department of Industries, Government of Kerala	Productivity and Competitiveness	Traditional manufacturing & Micro Enterprises
20	Grant Assistance to Cluster Development Activities		Industries Department, Government of Kerala	Training/Skill	
21	Integrated Cluster Development Programme	2004-05	Rural Industries Department, Govt. of Madhya Pradesh	Promotion of traditional products	Micro Enterprises Handloom & Handicrafts
22	Craft Village Scheme (Shilpgram Yojna)	2004-05	Department of Handicrafts, Government of Orissa Director (Handicrafts)	Employment	Handicrafts
23	Cluster Development Programme	2005-06	Industries Department Government of Rajasthan,	Productivity and competitiveness	Handloom & Handicraft
24	NMDFC Micro Financing Scheme through Cluster Development Approach	2005-06	National Minorities Development & Finance Corporation (NMDFC)	Employment	Micro Enterprises

Source: Policy and status paper on Cluster Development in India, 2007. Foundation for MSME Clusters.

The concentration of Micro, small and medium enterprises on a given geographical location, producing same or similar type of products or services are called clusters.

These industries face common threats and similar opportunities. In India number of agencies has come forward to launch the cluster development programme with a variety of definition, specifying a certain minimum number of units in a given measured location, keeping view the focus and typology of cluster.

- According to Integrated Handloom Cluster Development Programme (IHCDS) a handloom cluster has been defined as one having a minimum of 500 looms. National Minorities Development & Finance Corporation (NMDFC) considered a Handloom cluster, which has more than 75% of the population belong to "minorities".
- Scheme of Fund for Regeneration of Traditional Industries (SFURTI), Ministry of MSME defines a micro village industry cluster having 500 beneficiary families of artisans/micro enterprises, suppliers of raw materials, traders, service providers etc., located within one or two revenue sub-divisions in a district (or in contiguous districts).
- According to DC (Handicrafts), Ministry of Textiles Agglomerations having 100 artisans is to be considered as a artisanal cluster. In case of North East Region, Jammu & Kashmir and other hilly terrains, the clusters will have a minimum of 50 artisans.
- Micro enterprises and household units functioning on SHG mode and having a minimum of 50 beneficiaries up to a maximum of 200 are to be considered a cluster according to NABARD, Cluster Development Programme. In intensive clusters, the number of beneficiaries may go up to 500-700 and can even extend over a block or taluka.
- According to UNIDO- CDP an industrial (traditional manufacturing) or an artisanal cluster requires at least 100 SME units or 50 handicraft units respectively in a town/ city or few villages and their surrounding areas. Further for a handloom cluster requires a minimum of 500 handlooms.

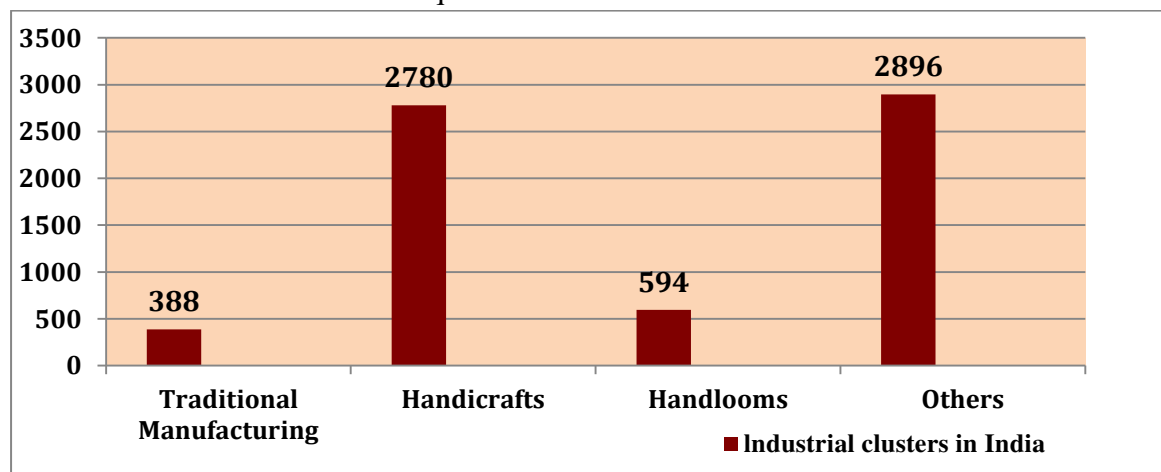


Chart -2: Clusters at Glance In India

Source: Policy & status Paper on cluster development In India, 2007 Foundation for MSME clusters

The above chart-2 reveals that there were 6658 clusters in India in 2007 as per the report of Foundation for MSME Clusters. Out of which the handicrafts industry alone had 2780

clusters followed by the handloom industry. There were only 388 Traditional manufacturing clusters in 2007. The higher concentration of clusters in handicraft sector indicates that most of the clusters are low-tech cluster as the handicrafts industry mainly based on labour-intensive, households sector.

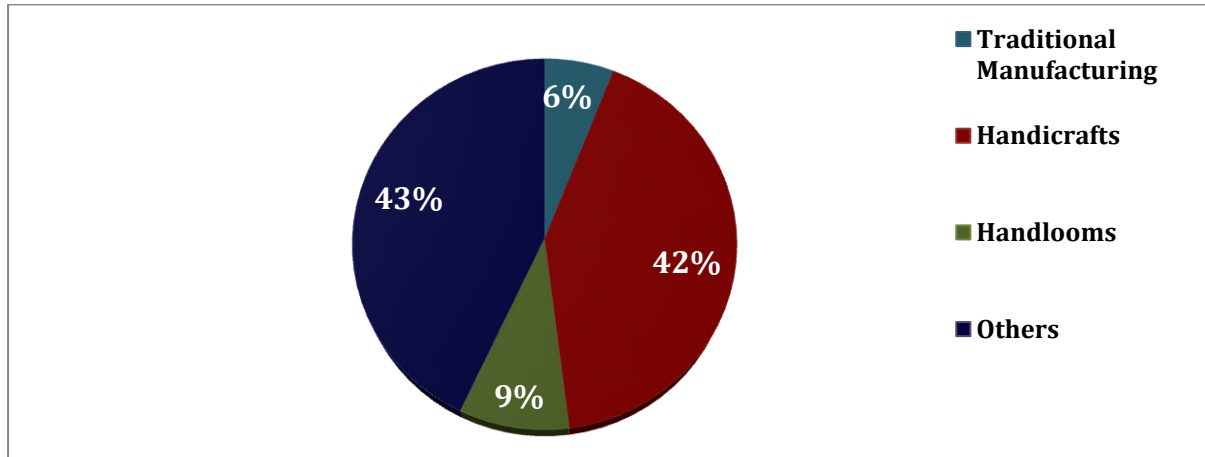


Chart -3: Category Wise Percentage Distribution Of Clusters In India

Source: Policy & status Paper on cluster development In India, 2007 Foundation for MSME clusters

This pie chart reveals the category wise percentage distribution of clusters in India. It is reported that traditional manufacturing industries with 6% shares occupy the lowest position in terms of cluster level industry. The share of handloom sector found to be 9% in country's industrial clusters and dominating role played by the handicraft sector is found in the field of industrial clusters in India.

Table -3:Region-Wise Distribution of Industrial Clusters in India

Region	Traditional Manufacturing		Micro Enterprises					
			Handicraft		Handloom		Others	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
East	36	9.28	645	23.19	43	7.24	464	16.02
West	140	36.09	764	27.47	134	22.57	787	27.17
South	89	22.95	502	18.05	214	36.02	858	29.62
North	123	31.7	716	25.75	140	23.56	698	24.11
North-East	0	0	153	5.51	63	10.61	89	3.08
Total	388	100	2780	100	594	100	2896	100

Source: Policy and status paper on Cluster Development in India, 2007. Foundation for MSME Clusters.

Clusters have been spread over across the country. Total numbers of 6658 clusters in India were reported in 2007 by Foundation for MSME Clusters in its 'Policy and status paper on Cluster Development in India'. The industrial clusters have touched upon each and every region of the country. There were 388 clusters in Traditional Manufacturing sector, out of which west region occupied the highest position with 140 such clusters, and the share of north and south region in such clusters reported 31.7% and 22.95% respectively. The share of east region is found to be low only 9.28% but without

occupying any such clusters north east region has placed its miserable industrial position.

Handicrafts alone had 2780 clusters. With 27.47% shares of that clusters west region was in the highest position. The second and third positions in this regard have gone to north and south region with 716 and 645 clusters respectively. There are only 153 such clusters in the hands of north east region, in terms of percentage of share this is only 5.51% but in case of handloom clusters, the share of this region is 10.61%.The position of this region is quite healthy but in case of other Micro Enterprises, this region shows its inability to promote entrepreneurship through clusters. It is a matter of concern that north east region had clusters in handloom and handicraft sector which follow the low-road approach, which only play role to generate the employment opportunity and very little scope to enhance the contribution to the national economy in respect of production and export earnings.

Table -4:State-wise Distribution of SME (Traditional manufacturing) Clusters in India

Serial Number	State	Clusters	Serial Number	State	Clusters
1	Maharashtra	58	12	Orissa	13
2	Gujarat	49	13	Kerala	10
3	Uttar Pradesh	34	14	Madhya Pradesh	10
4	Andhra Pradesh	32	15	Jammu & Kashmir	04
5	Punjab	30	16	Bihar	03
6	Tamil Nadu	28	17	Jharkhand	03
7	Haryana	24	18	Himachal Pradesh	03
8	Rajasthan	20	19	Uttaranchal	03
9	Delhi	19	20	Chhattisgarh	02
10	Karnataka	19	21	Goa	01
11	West Bengal	17			
Total SME Clusters in India				388	

Source: <http://www.dcmsme.gov.in/clusters/clus/smelist.htm#clus>

In India, traditional manufacturing clusters are concentrated within 21 states. Medium growth rate and wage level are the unique feature of these clusters. It is also observed that economically and industrially developed states are in better position in terms of such clusters. More than 50% of 388 clusters are occupied by five states, namely, Maharashtra, Gujarat, Uttar Pradesh, Andhra Pradesh, Punjab and less than 50% of such clusters are found in rest of 16 states. It is a matter of concern that one third of the states of our country remain untouched from the benefit of Traditional manufacturing clusters.

6. Role Of Clusters In SSI Sector

The Government of India has been emphasised on cluster approach for boosting the small scale industries and to make them globally competitive since 1998. Over the decades small scale industry clusters have played significant role in terms of generating employment and gross output. Clusters in small scale industry sector were identified in India from the second census of SSI units and from that date, various policy decisions have been taken by the government of India. In view of the importance of SSI sector, the

attempt for identification of clusters was still in existence during the third all India SSI Census and fourth all India Census of MSMEs. A criterion was made to consider a cluster for the purpose of 3rd census of SSI .A district having minimum 100 registered units engaged in the manufacturing the same product as per ASIC2000 (at 5 digits)was considered a cluster for that product in that district. Based on this criterion, third all India SSI Census identified 1223 clusters in the registered manufacturing SSI Sector and these clusters units were produced the 321 variety of products.

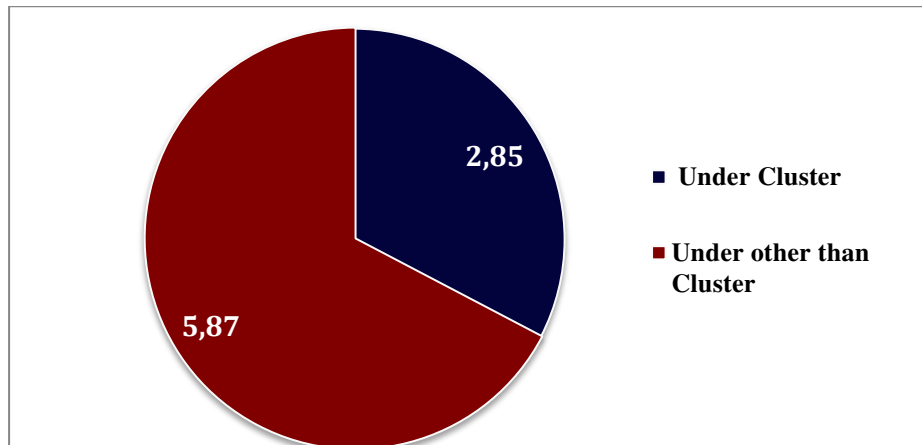


Chart -4: Share of clusters in Regd. SSI units (in lakh) in India in 3rd SSI census

Source: 3rd census of SSI, GOI

This pie chart mirrored that during the period of 3rd census there were 2.85 lakh registered manufacturing units in 1223 clusters and 5.87 lakh registered manufacturing units other than clusters area in India. The 32.68% of the country’s total registered manufacturing units of the SSI sector had been functioning under the umbrella of 1223 clusters in the period of 3rd census.

Chart -5

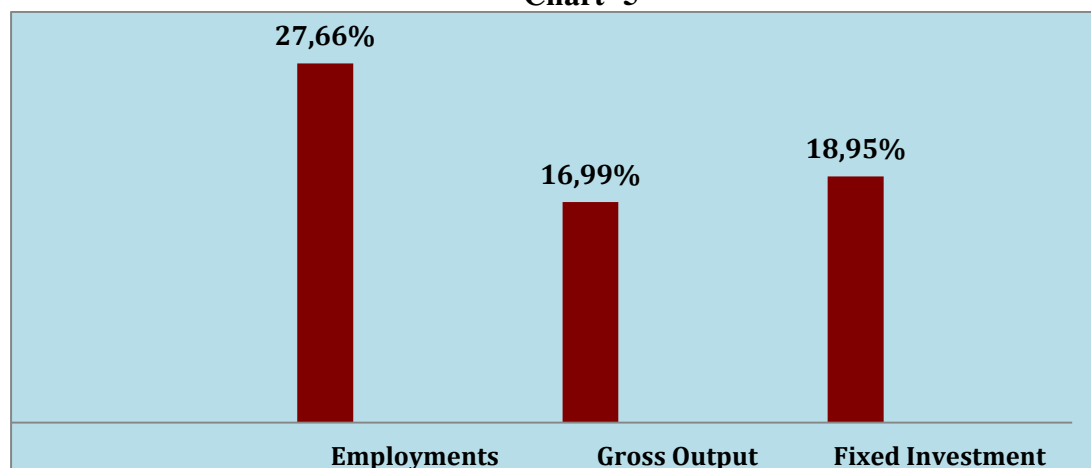


Chart 5: Contribution Of industrial Clusters in India In 3rd Session

Source: 3rd census of SSI, GOI

The chart -5 reveals the contribution of industrial clusters in 3rd census period. The registered manufacturing units in industrial clusters had contributed 16.99% gross output by investing 18.95% of the total fixed investment of the total manufacturing units of the

SSI sector. About 27.66% of total employments of SSI in 3rd census period were contributed by the industrial clusters.

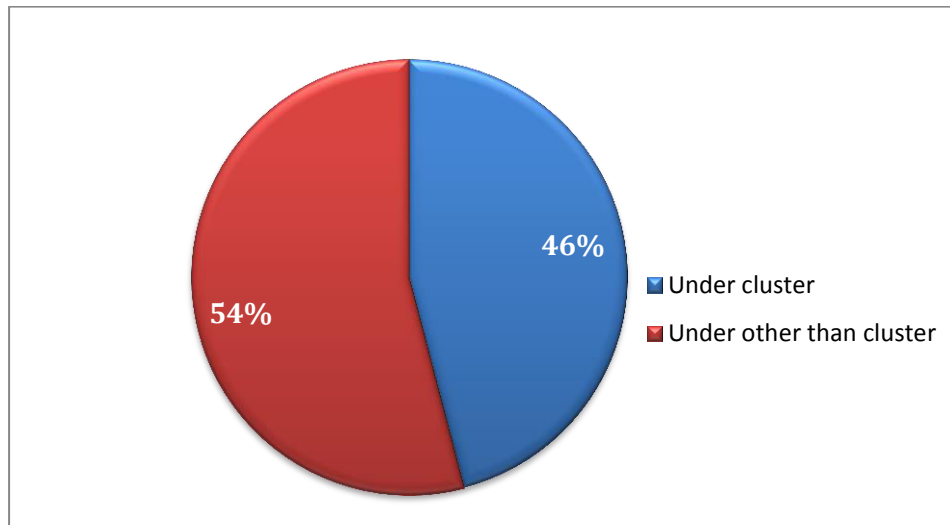


Chart -6: Share of clusters in SSI units in Regd SSI Sector in India in 4th SSI Census (in lakh)
 This pie chart mirrored that there were 7.18 lakh registered manufacturing units in 2443 clusters and 8.45lakh registered manufacturing units other than clusters area in India during the period of 4th census. The clusters covered 45.92% of the country’s total registered manufacturing units of the SSI sector.

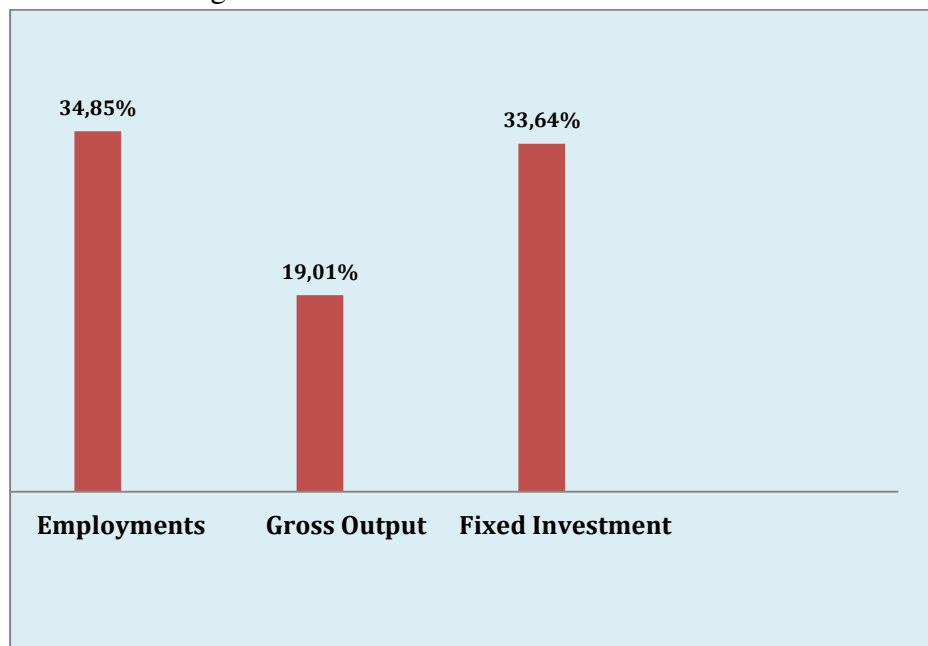


Chart-7: The contribution of industrial clusters in 4th census period
 Source: Final Report 4th MEME Census 2006-07, Registered Sector
 The chart -7 mirrors the contribution of industrial clusters in 4th census period. The clusters in registered manufacturing MSMEs significantly contributed to the country’s MSMEs. It is highlighted that industrial clusters contributed about 34.85% of total employments of country’s MSMEs. 19.01% of the total gross output by investing 33.64% of the total fixed investment of the MSMEs.

Table 5: Comparison between 3rd & 4th SSI Census in Contribution of Clusters in Registered Sector in India.

Census	Clusters	Estimated no. of units in percentage	Employment in percentage	Fixed Investment in percentage	Gross output in percentage
3 rd	1223	32.68	27.66	18.95	16.99
4 th	2443	45.92	34.85	33.64	19.01
% change in 4 th over 3 rd census	(+) 99.75	(+)13.24	(+) 7.19	(+)14.69	(+) 2.02

Source: Final Report 4th MSME Census 2006-07, Registered Sector, Government of India.

The increasing trend of clusters in registered MSME sector is observed from the table during this two census period and with 100% increasing rate of clusters during this period has made the remarkable revolution in the field of cluster approach. The increasing trend in terms of number of units and employment is found to be 13.24% and 7.19%. The fixed investment and gross output are increased by 14.69% and 2.02% respectively. The increasing trend of clusters as well as their capacity to cover additional 13.24 % industrial units and 7.19% employment in comparison to 3rd census signifies the acceptance of cluster approach for promotion of entrepreneurial development in registered manufacturing unit of MSMEs.

7. Conclusion

The recognition of clusters for boosting the entrepreneurial activities in India’s MSMEs has been made since 1997 but the effect of this approach has to be limited to generation of self-employment in artisanal industry sector. The study finds that industrial clusters are capable to promote the growth of country’s MSMEs by accelerating the early stage of entrepreneur. The benefit of these clusters mainly lying with pro-poor growth with very little earnings. The objective of introduction of cluster policy to make the microenterprises competitive is found to be a far cry. Most of the clusters in India are low-tech micro enterprise cluster which has a little opportunity to grow with their own financial resource. It is fact that through AHVY Scheme several policy measures have been taken by the DC, Handicrafts, Government of India, to strengthen the artisanal clusters but desired outcome is yet to be made due to lack of attention of implementing agencies of respective clusters. The beneficiaries / members of the clusters are too little educated to materialise their right, even not familiar with their right and their poverty level is also a major constraint to fight for their right but to satisfy whatever benefits provided by respective implementing agencies. A central network to vigil the proper implementation of government grants may enhance the micro enterprises growth. Most of the microenterprises in India are facing constraint of finance and entrepreneurial skill. Under this prevailing situation, besides the cluster approach, the positive role of financial institutions in terms of credit facilities and district industry centre in sponsoring entrepreneurial training to the stakeholders is the need of the hour for positive entrepreneurial growth.

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