Development of Industrial Cluster

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DEVELOPMENT OF INDUSTRIAL CLUSTER

A Study of Indian Small Scale Industry Cluster

By

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Table of Content

ABBREVIATIONS

AEPC	Apparel Export Promotion Council
BPO	Business Process Outsourcing
EPZ	Export processing zone
EXIM	Export and Import
FDI	Foreign Direct Investment
FICCI	Federation of Indian Chambers of Commerce and Industry
IIRD	Indian Institute of Rural Development
ISO	International standard organization
IT	Information Technology
KVIC	Khadi and Village Industries Commission
MNC	Multi National Corporation
NABARD	National Bank for Agriculture and Rural Development
NIFT	National Institute of Fashion Technology
NSIC	National Small Industrial Corporation Ltd
RBI	Reserve bank of India (Central bank of India)
Rs.	Rupees

SBI	State Bank of India
SEZ	Special economic zone
SFC	State Financial Corporation
SIDBI	Small Industries Development Bank of India
SIDO	Small Industry Development Organization
SIDO	Small Industries Development Organization
SIHMA	South India Hosiery Manufacturers Association
SITRA	South Indian Textiles Research Association
SME	Small and medium enterprises
SSI	Small Scale Industry
SSIs	Small Scale Industries
TEA	Tirupur Exporters' Association
UNIDO	United Nation Industrial Development Organization
UTI	Unit trust of India

Introduction

In the present times, industrial clusters have become the new mantra for economic development. It is now over a decade since SME clusters, that are regional concentrations of small and medium-scale enterprises involved in similar kinds of economic activities, have ceased to be a popular topic of academic research and have become areas of great attention for policy makers and practitioners in the field of economic development.

Industrial clusters have re-emerged popular fields for research and policy analysis. "The benefits of industry clustering were identified early by Sir Alfred Marshall in the year of 1919. According to Marshall these arise from localization economies; namely the availability of common buyers and suppliers, the formation of specialized and skilled labor pool and the informal transfer of knowledge."[1]

Cluster development is attributable to several factors, including technology transfer, knowledge transfer, development of a skilled work force in related industries, the benefits of agglomeration economies, and social infrastructure. Porter attributes cluster development and growth to competition, and focuses on how these key factors drive competition.[2] An example might be a localized knitwear and garment industry, which includes within a small geographical area knitting firms, cloth-finishing, dyeing and printing units, garment producers, merchant buyers and exporters, and also producers of specialized inputs such as threads, buttons, up to textile machine suppliers.

[1] Chakravorty, Koo & Lall, 2005

Background

The development of SSI cluster in India has hugely contributed to the phase of broad and extended industrialisation in all states[3]. It has been contributing immensely to the Indian economy, in terms of employment, production and exports. In the year 2001-02 the SSI sector registered a higher growth rate than the growth in total industrial production. The SSI sector in India with an estimated 3.6 million units produces over 8000 items and provides employment to about 20 million people.

The basic importance of this sector is its share of 39 percent in industrial value added and 34 percent in India's total exports. In other words, in India, it is estimated that there are approximately 350 small scale industries clusters and around 2000 rural and artisan based clusters contributing to almost 60 percent of the manufactured exports and 40 percent of the employment in the manufacturing industry. The 3.6 million SSI units in the country produced over 8000 items and provided employment to about 20 million people in1996. These clusters have been in existence in India for several decades and sometimes even for centuries[4].

An analysis of time series data shows that from 1980 to 1997 an additional 8 millions jobs were created in the SSIs. An annual average increase in employment of 5.1 percents during the period 1980 to 1997 proved it as a land mark for potential employment generation field in Indian economy. So, the SSI clusters have tremendous potential for generating sustainable employment at comparatively low costs. In aggregate SSIs contribute 40 percent to the country's industrial output and 35 percent to direct exports. A large number (Estimated number of units: 3.57 Million) of clusters of various industries exist in all states of India. A recent study carried out by UNIDO,[5] has listed 350 SSI clusters covering 18 types of industries in 16 states. The third All India census of small scale industries (2001-02) shows 1223 clusters in the registered sector

[2] Porter, 1990
[3] (See also the index of SSI clusters in appendix)

[4] Times of India News, 27/11/01 on UN cluster program and Gulati, 1996
[5] *http://web5.laghu-udyog.com/clusters/*

covering 321 products and 819 in the unregistered sector covering 250 products, the total number of items produced over 8000.

Some of these Indian SSI clusters are huge in size which contributes up to 90 percents of India's total production output in selected products. For example, the knitwear clusters of Ludhiana produce 95 percent of the country's woolen knitwear, 85 percent of the country's sewing machines and 60 percent of the nation's bicycle and bicycle parts. Another famous industrial cluster of India is Tirupur (Tamil Nadu) which contributes 80 percent of the country's cotton hosiery exports.

On the other hand, in spite of success and long heritage, SSIs in India have been facing failures as well. The big number of Indian clusters is not fulfilling its actual potential. In many cases the firms are surviving on the basis of low costs of labor. They do not participate in supportive production chains involving effective collaboration between firms and service institutions neither do they compete on the basis of improvements in their products, technologies, and skills etc. So, here this work attempts to cover the development initiatives in basic infrastructural elements and policy implications towards SSI clusters in India. It deals with the trends in development of SSI clusters, financing to SSIs, reasons of their sickness and policy implications of government of India. The ultimate research question in this dissertation is the development initiative in Indian SSIs. In that it argues that SSIs in India only depend on infrastructure elements and associated policy and whether or not they matter for cluster development and, if so, how and why they do.

Organization of Paper

After the 18th century India has been creating a ground for the SSI industry and they started taking shape of clusters. Headings Introduction and Background provides a bird's eye view on the background of SSI clusters in India. Chapter one sets forth the literature that is relevant to understand the concept behind successful industry clusters. An effort is made to take a look at factors embedded in regional economies of and concept behind the SSIs clusters. Chapter Two focuses on the peculiarity of sickness in Indian SSI clusters taking an example of UNIDO's cluster reformation program. Next Chapter Three is based on research and findings on famous Textile cluster of India, Tirupur. Later, Chapter Four of this paper integrates discussions on various elements of the Tirupur industry cluster based on interviews findings with entrepreneurs, using one particular industry cluster in achieving development. It deals with the some elements of Tirupur Cluster that is not paid attention to under the common cluster development program. Chapter Five highlights the selected and major policy implications affecting the SSIs clusters and finally there is the conclusion.

CHAPTER 1

Literature Review

1.0: Introduction

Industry cluster policies have been intensive tools of economic development program. Cluster policies, on the other hand, are basically dependant on the relations that industries are connected in both direct and indirect ways.

Industry cluster policies have received significant attention in current literature. The literature in case studies shows different types of clusters. Examples of industrial clusters range from a hosiery cluster in Tirupur from a southern State, Tamil Nadu, or the apparel and woolen clothes cluster in Ludhiana, to 2nd most acclaimed Silicon Valley of the world, Bangalore, a developed region of high technology engineering, telecommunications, machine tools, computers and related electronics firms.

This chapter summarizes the key literature on the issues focusing specifically on the, the factors driving cluster development, and cluster policy in India. While there is not ample literature on industry clusters in India, this literature review focuses primarily on the use of the concepts in India. After going through various literatures on SSI clusters the following concept has been found in case of Indian SSI clusters.

1.1: Clusters and Flexible Specialization

Piore and Sabel, claimed a "second industrial divide," arguing that the saturation of mass markets for relatively standardized goods was giving way to consumer preference for greater variety and quality (Piore and Sabel, 1984). Their studies of Italian industrial districts showed that Cluster of small, craft-oriented industrial firms were profitable in the global market by producing distinctive, high-quality products in a diverse area, as for example furniture to textiles and apparel. These industrial cluster or so called industrial districts achieved their success through flexible specialization and adjust themselves to respond as per market demand and to fill market with a quality and controlled quantity of products.

1.2: Integrations with in Cluster:

As mentioned by various economists in cluster related case studies there are two types of integrations found in industrial cluster, they are horizontal and vertical integration. Increased vertical integration occurs as the division of labor gets more specialized, and new firms are able to fill the new niche markets. For example, BPO and Call centre industries in various cities in India have shown vertical integration. Horizontal clustering occurs as the new technology and labor skills are applied to related industries in different sectors. Holmstorm's study on city of Bangalore Cluster shows as an example how it has spurred the horizontal clustering process where all factors are equally responsible and integrated to bring a boom in Bangalore based SSIs clusters. Here, It should be noticed that Bangalore is not only a world famous information technology (IT) cluster, as mentioned in Holmstorm's study also, but has also been a centre of other big industries such as machine tools, defense industry, telecom industry along with a large no. of educational centers.

1.3: Mobilization of Capital:

Michael Porter (1990) says that "competition is a driving force behind cluster development. Clustering is a dynamic process, and as one competitive firm grows, it makes demand for other related industries. As the cluster develops it becomes a mutually reinforcing system where benefits flow backwards and forwards throughout the industries in the cluster". According to Nadvi and Schmitz (1999), the mobilization of physical capital, human capital and expected output of resources, breaks down the investment in small, riskable steps. It means the enterprise of one creates a foothold for the other. In brief, "It is a process in which enterprises creates for each other often unwillingly, some time intentionally" (Nadvi and Schmitz, 1994) - like Bangalore computer industry that gave rise to global players but, started as a cluster of small firms.

1.4: Trade networks:

Clustering tends to attract traders but it does not ensure effective trade links to larger markets. In Indian clusters trade networks have not been highly developed although, prevalence of effective trade networks attracts new traders, e.g. the newly opened service of BPO in central and south India attracts US and European MNC to handle their customer.

1.5: The Business of Trust:

"Where trusts are missing, a production system requiring deepening specialization and independence of formally independent firms is likely to develop. Lack of trust also produce obstacle in learning process." Knorringa (1996) has shown clearly how distrust between producers and traders, due to existing socio-cultural barriers hamper the process of local learning and retard a cluster's technological development.

1.6: Liberalization in Economy:

India has been a good example of such liberalization for the last one decade. In 1991, Govt. of India has made more liberal to its economy by making more flexible to EXIM, FDI and industrial policy. "Local producers accustomed to an easy domestic market have suddenly started facing more exacting global markets. The early 1990s were characterized by disappearance of

India's traditional low quality export market in the Soviet Union alongside the growing demand for high quality product in a domestic market" (Nadvi & Schmtz, 1999).

1.7: Multilateral Horizontal Co-operation Varied Between the Clusters:

In India, multilateral co-operation seems to be little in case of Agra cluster and conspicuously absent in the Ludhiana cluster. In the Brazilian cluster, a strategic multilateral upgrading initiative was launched but it failed in the end due to the lack of support from large and influential manufacturers

1.8: Diverse Responses with in Cluster:

Nadvi found that in the Mexican and Pakistani clusters large and medium sized firms improved their performance more than small one. But, in the Indian cases the distinction as not so much (Nadvi, 1999). All clusters can't be similar in many ways as for example not all major software developments areas in India can be not exactly become Bangalore IT cluster.

1.9: Institutional Lock in:

There is a fairly close association between the export performance of Tirupur and the technological support received from South Indian Textile Research Association (SITRA). As stated by Ganguli the impact of SITRA institution on performance of Tirupur clusters in India is considerable. Certainly this institution appears to be valued by many other industrial research organizations in India (Ganguli, 1996). The forms of economic activity at a point in time play an important role.

As local economies undergo through development over time, it affects the firm's future opportunities. Krugman (1991) writes that "small accidental events start a cumulative process in which the presence of a large number of firms and workers acts as an incentive for still more firms and workers to congregate at a particular location. The resulting pattern may be determined by underlying resources and technology at some very aggregate level; but at ground level there is a striking role for history and accident."

A general review of the many attempts to establish clusters as engines of regional development suggests failure in more than half the cases; only as few as 10% are significantly successful (Johnston, 2003).

1.10: Suppliers' Location:

In a large size market enabled suppliers to provide specialized products. As Porter (1990) mentioned, the benefits to supplier location in clusters run both ways. Suppliers gain from the nearby market for their output, while client firms in the cluster gain from easy access to a range of services. The interaction between buyers and suppliers can trigger quicker and more effective responses to technical problems or demand changes, helping all the firms in the cluster.

This character found in all knowledge and high technology based Indian industrial clusters, they all are efficient to meet up their needs at their location as per example Noida (New Okhla Industrial development Area), Delhi in Capital of India is rising as one of knowledge, automobiles clusters cause, its fully able to meet up highly qualified skilled workforce at cheap rate. And near by area of NCR (national capital region) are centre for production of skilled workforce due to cluster of established educational institutions.

A leading characteristic of Italian industrial districts has been the successive specialization of firms in different steps in the production process (Bianchi, Miller, and Bertini 1997). Porter (1998) has prepared detailed diagrams of purchasing and product and services flows for the California wine industry and the Italian footwear industry, among others.

1.11: Competitive advantages at clusters[6]:

In 1990s, Marketing Guru, Michael Porter come with a revolutionary theory of competitiveness with his book The Competitive Advantage of Nations (1990). In The Competitive Advantage of Nations, Porter describes industry clusters as the outcome of four factors, factor conditions, demand conditions, related and supporting industries, and firm strategy, structure, and rivalry. Porter's work shows, how a company's location affects its strategy and performance.

"The cluster is the manifestation of the diamond at work. Proximity, arising from the co-location of companies, customers, suppliers, and other institutions, amplifies all of the pressures to innovate and upgrade" (Porter, 2000)

The advantages at clusters include, an endogenous growth factor, growing from similar social roots, a common history, a strong sense of identity and cultural belonging. They are sometimes difficult to re-orient industrially, due to technological path dependency (Nadvi, 1999). The Place called Chanderi, which is in the state of Madhya Pradesh in India; a small handicraft textile cluster is a good example.

1.12: Socio-cultural and Geographical Impacts:

"Many of social relationships are localized as per region. People are not simply workers or managers; they are also consumers, citizens, church-goers, kin, and community members. Different economic systems support and give rise to different social arrangements. Different social arrangements, in turn, support different economies. As the social and institutional perspective on economic life emphasizes, economic systems are embedded in social systems, not separate from them. Therefore, it is often difficult to describe economic systems separately from the social systems to which they belong" (Granovetter, 1985). These above can be easily find at some of South Indian clusters such as Tirupur Textile Cluster, that have good geographical conditions for textile products and also, artist, technician and local labourers are attached with this business since years ago.

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[6] Title is taken from Porter, The Competitive Advantage of Nations (1990)

1.13: Knowledge Generation and flow:

Knowledge generations and flow is quite associated with institutional set up of a cluster. In a global economy with a high developed communication network and links to knowledge in other places is an important. “One objection to this localized model of information flows is that it may insulate firms potentially valuable information generated in other places and lead to an inbred thinking and a lock in that produces economic decline” (Simmie, 2004). In Banglaore IT clusters found as IT research and knowledge power house as all reputed IT company (IBM, Micro Soft, Oracle, Sun) has set up their research and development centre to meet the requirement of demand of global IT market. “Knowledge flows are a combination of local buzz and global pipelines. Firms rely on the knowledge strengths of their local cluster and also maintain external connections. Often membership in a cluster provides the entree to global contacts (Bathelt, Malmberg, and Maskell 2002).

CHAPTER 2

Peculiarity of Sickness in Indian SSIs Cluster

2.0: Introduction:

This chapter covers the qualitative findings on peculiarity of sickness in Indian SSI clusters. The first part on sickness of cluster is partly based on interviews replies of entrepreneurs mentioned in later chapter 4, Research Design & Findings and review of relevant documents. Here, it is worth mentioning that all the problems indicate towards a common sickness in Indian SSI clusters. The latter part is about the UNIDO cluster development and reformation programs based on review of various UNIDO literatures, project reports and publications.

Peculiarity of sickness in SSI sector is a big concern in spite of various development initiatives for their capacity building.

Definition of Sickness in Indian SSIs given by Kohli Committee, 2002 of Reserve Bank of India[7]

"A small scale industrial unit is considered as sick when if any of the borrowal accounts of the unit remains substandard for more than six months, i.e., principal or interest, in respect of any of its borrowal accounts has remained overdue for a period exceeding one year will remain unchanged even if the present period for classification of an account as substandard is reduced in due course;

Or

(b) There is erosion in the net worth due to accumulated losses to the extent of 50 per cent of its net worth during the previous accounting year, and

(c) The unit has been in commercial production for at least two years."

2.1: Causes for Sickness:

The major among the causes are limited financial sources, lack of organizational, financial and managerial skills and expertise. Factors are uninterrupted power supply, shortage of raw materials, marketing problems, labor problems, liberalization of the economy, old fashioned technology, poor infrastructure, etc.

Here, we will know about the background and reason in details behind the above kinds of sickness. To understand the sickness in SSI sector we should pay attention to the following associated factor:

Table - 1: Sickness in SSI Clusters

As at the end of	Total sick units		Potentially viable	
	No.	Amount O/s (Rs. Crores)	No.	Amount O/s (Rs. Crores)
1991	2,21,472	2,792.0	16,140	693.12
1992	2,45,575	3,100.67	19,210	728.90
1993	2,38,176	3,442.97	21,649	798.79
1994	2,56,452	3,680.37	16,580	685.93
1995	2,68,815	3,547.16	15,539	597.93
1996	2,62,376	3,721.94	16,424	635.82
1997	2,35,032	3,609.20	16,220	479.31
1998	2,21,536	3,856.64	18,686	455.96
1999	3,06,221	4,313.48	18,692	376.96

Source: RBI

Note - 1 Crore is equal to 10 millions

[7] Page 164, Chapter VII, Small Scale Sector In India

2.1.0: Poor Infrastructure:

India's SSIs clusters gone through a long period of development although, it's full potential level not explored yet. There could be various issues that can be helpful to understand sickness in SSIs cluster. Poor Infrastructure has been a big cause of sickness. A concrete infrastructure i.e. power, road, transport, energy, water, ports and airports are key point of development. Regular interruptions in the power supply often damage the SSIs machinery. Almost all States of India facing daily power cuts of from one or two hours and so on. State Electricity Boards, which are the authorities to regulate supply of power, pay little attention to the power requirements and associated problems of the SSI units. The condition of the state electricity boards is also not satisfactory. Also, local system of transportation affects business of cluster intensively. As seen in Tirupur, poor local road condition doesn't make good impression to new investor and its lead to break down in business activity as well.

2.1.1: No Support from Government Agencies:

There isn't any concrete reformation plan for loss making units. In order, meet the various infrastructure requirements of the SSIs, the Government has established State Industrial and Infrastructure Development Corporations and Small Industries Development Corporations. These state level organizations are providing the infrastructure requirements in their respective states. However, the penetration of these organizations seems to be not adequate in terms of all areas coverage

2.1.2: Raw Materials:

The problem of regular supply of raw materials with required quality at reasonable prices is important for SSIs clusters firms. Moreover, tariffs and duty imposed on high quality imported inputs and big time lag in import process place the Indian SSIs in a less competitive position.

In Ninth five years plan[8] of central government of India, documented that, "the small sector tends to get more or less a 'residuary' treatment in raw material distribution. The problem of raw material availability has been among the important factors responsible for under-utilization of the capacities in the small industries sector. In recent times the prices of various inputs like steel,

[8] www.planningcommision.nic.in

coking coal, oil are on increase and unless price stabilization mechanism is conceived, the small units may not be able to cope with the volatile prices of critical inputs. In order to overcome the difficulties with respect to availability of various raw materials, earlier the Industrial Policy Statement had envisaged introduction of a scheme for building up of a buffer stock of essential and scarce raw materials."(RBI, 2004) For above role of state and central level government agencies are quite important.

2.1.3: Employment laws:

As per existing government of India laws the units employing less than one hundred persons can not be taken under the employment laws, but in reality, when these units try to change their employee size, they are not able to do it as the employees go in for strike or challenge for judicial process where dates of hearing are fixed months after filing the application due to slow judicial process in India.

2.1.4: Lack of Innovation and adoption of New Technologies:

Adoption of new technologies is not frequent in Indian SSI units. Still several efforts have been going on, for example, in the state of Gujarat, Dr. Anil Gupta's Honey Bee Network and Indian Institute Management, Ahmedabad, have discovered local technology innovators from grassroots levels and have provided them a suitable framework. It is seen as laudable achievement in supporting SSI units' innovations and technological adoption[9].

2.1.5: High cost of production:

Old fashionable technology for production, manufacturing of poor quality products at high cost, and competition with one another have always has been big trouble for SSI sectors. It loses ground when faced with better quality products and lower prices of big industries. In most of India's SSI's sectors cluster facing same problem and going to be on verge on extinct. As given example at last of this chapter of UNIDO intervention in Jaipur Cluster. This start up of rejuvenation process is very needful to get rid of this problem.

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[9] BBC Special documentary on Dr Anil Gupta's Honey bee network, www.bbc.co.uk

2.1.6: Inefficient Loan Recovery Mechanism:

It's still lacking an appropriate mechanism to recover loans. "SFCs & Debt Recovery Tribunal have the right under the Provision of Arrears of Land Revenue to sell the closed units to recover the amount of loan yet the recovered amount is not anywhere near the credited amount"[10]

2.1.7: Poor quality of human resources:

Most of SSIs clusters have been fail to meet the required quality complete human resources. Their tradiotional way and non train worker do not assembly way of production so they fail to compete in market. The responsibility of skill up-gradation and providing training to the labour force in small sector is vested with a network of institutions like Small Industries Development Organization (SIDO), Small Industries Service Institutes (SISIs), Technical Consultancy Organizations (TCOs), Process & Product Development Centres (PPDCs), District Industries Centres (DICs), Regional Testing Centres (RTCs), Central Footwear Training Institutes (CFTIs) and Tool Rooms (RBI, 2005).

2.1.8: Industrial Unrest:

It's a quite common problem faced by employers of SSIs clusters. Inappropriate wage rate creates industrial unrest. Sometimes it has been seen that skilled workers go to an industry where they find higher wages and this tendency in market not favors the interest of SSIs. It draw attention towards need for very organized Human Resource Division with in cluster that's not possible for many SSIs and in whole cluster.

2.1.9: Law and Order Situation:

Anti-social elements are subject of big concern in Indian industrial areas due to not having of tight law and order arrangements.. Sometimes, local authorities express their helplessness and inefficiency, as they are bounded by their limited power and authority. Since, the law and order comes under State Government domain so, central govt. measure take least interest in this issues

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[10] Govt of India Report on Sickness in SSIs, 2002

2.1.10: Marketing Problems

The marketing problems of small industries clusters in India flow from their scale of operation, and rivalry with products of large scale units. Middlemen system of marketing of their products can be still found there as for example Chanderi Cluster of Saree[11] in Madhya Pradesh, India. They can usual explore their nearest market only. "Small units suffer from the absence of a competitive network of wholesalers and trading companies that could introduce their products into domestic and foreign market, and provide them with pertinent market information" (RBI, 2005).

2.1.11: Non progressive form of Taxation:

Rate of taxation should induce SSI sectors but some times it seems unfavorable to SSI and also it varies from one state to another state. As for example just four per cent taxation has been imposed on hosiery industry in the state inducing more sickness in rural areas based SSI units. This shows the inverse effect of the rate of taxation at some places.

2.2.0: Rejuvenating program to sort out sickness in SSIs Clusters

In 1996, UNIDO was proposed by the Department of Small Scale Industry, Ministry of Industry of Central Govt. of India, to promote pilot projects in selected clusters and assist the Ministry to create a national cluster development program.

Here, the story of Jaipur textile cluster reformation program by UNIDO is worth mentioning. The following institutions[12] in India have been working for industrial cluster development along with UNIDO.

"Central Government, Development Commissioner (SSI), Ministry of Small Scale Industries, NSIC, Development Commissioner (Handicrafts), Ministry of Textiles, Department of Science & Technology, Ministry of Science & Technology, Textiles Committee of India, Ministry of Textiles, KVIC, Coir Board and Other Support Institutions including SIDBI , SBI & NABARD"

[11] Indian Classic wear for women

2.2.1: Profile of Jaipur textile cluster

Jaipur, the pink city of India (capital of Rajasthan State) is famous as a textile cluster for printed textile products (e.g. bedspreads, curtains, garments etc).

It is accounted that in Jaipur there are approximately 900 firms in this industry employing around 10,000 persons. There are two main locations where the firms are concentrated in the Jaipur cluster - mainly two villages - Bagru and Sanganer. The village of Bagru has 150 hand block printing firms. The village of Sanganer has 250 units of traditional hand block printing and almost the same number of screen printing units (Alicia Ory DeNicola, 2004).

During the 1980's and 1990's export of hand printed textiles increased. Nevertheless Jaipur's hand printed textile cluster, with an export volume of only 30 million US$, enjoys a share of less than 15 percent of the 204 million US$ national exports of hand printed textile. (UNIDO's Jaipur cluster project report, 2003). The hand block printing industry in Jaipur is currently competing on the basis of low prices, use of cheap materials and cheap labor.

2.2.2: UNIDO's Role at Jaipur Cluster development program

It was found that weak network among the different cluster elements and lack of joint action strategies for development is main reason of slow development. A effective cluster action plan was prepared to address these issues with a long term objective to explore the opportunities offered by the available market.

UNIDO identified the requirements of this cluster and began a number of joint initiatives. "In both Sanganer and Bagru village projects undertaken were both of a commercial and promotional kind such as marketing programs, training courses in design, preparation of common catalogues and web-sites, joint participation to national and international fairs has been started"[13].

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[12] www.laghu-udyog.com/
[13] Russo, 1999

In Sanganer UNIDO has supported the Calico Printers Co-operative Society to reform its old network within the block printers groups of Sanaganer and prepared a platform to target their problems. The block printers of Bagru have got help to reorganize themselves through intervention of UNIDO. UNIDO reorganized them though the help of local NGOs and IIRD (Russo, 1999)

Several local and national institutions have been involved in cluster reformation project of Jaipur such as the: Indian Institute for Rural Development, NABARD, SIDBI, Rajasthan Chamber of Commerce and Industry, Rajasthan State Industrial Development & Investment Corporation, Development Commissioner (Handicrafts), National Institute of Design, NIFT, Development Commissioner (Handlooms).

UNIDO and the institutions mentioned above are exploring the possibilities for strategic and modern technology based projects such as generating a common washing facility, the development of a common brand, the organization of credit guarantee co-operatives, the creation of an ethnic industrial estate and the setting–up of an information centre on fashion trends.

CHAPTER 3

Research Design and Findings

3.0: Introduction:

This chapter presents the findings from the qualitative case study research on the development of Tirupur Textile Cluster. The findings are based on my interviews conducted on 17 Sept, 2005 with local entrepreneurs and a review of relevant documents and government reports.

Interview was conducted with C.S. Shanmuga Sundaram[14] and his 4 senior staffs, He is founder and CEO of two SMEs namely Ace Designs, Happy Kids in Tirupur Textile Cluster, India and having a joint venture to developing a quality sinker and needle for circular knitting machines with Cougar Lubrication Limited, England. All interviewees are selected from Textile industry on basis of size and locations of SMEs which has been base bone for Tirupur Textile Cluster Development.

The analysis directly integrates the contents received from the in depth interviews with successful entrepreneurs to investigate how this cluster used its elements of regional economies to achieve its development and what problems are they facing in doing so. The qualitative analysis applies the conceptual points set in previous chapter.

The qualitative analysis does not intend to scientifically test the points presented in Chapter One in a conclusive way although those points were used during interviews and make it sure that the qualitative findings collected addressed the main research questions of this dissertation concerning the development of SSI industrial cluster.

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[14] Correspondence address: 4/14, Thundukkadu, O.R.K.Puram, 3 rd Street, Pappanaickenpalayam Main Road, Tirupur, India. Pincode-641607

This research design is broadly based on investigations of the five points involving Networking, Human resources, Communities Linkages and Regional Embeddedness and Government Policy that lie at the root of all SSI clusters in India. Here, it is worth mentioning why I took these basic points to conduct a research through interviews with successful entrepreneurs. In my opinion, this is a simple way to find out the development initiatives and also, important for examining the development of SSI clusters.

Before dealing with the above mentioned five points, it'll be better to look over the profile of the Tirupur textile cluster.

3.1: Profile of Tirupur Cluster

Tirupur (which means 'spinning' in Tamil language) is a small industrial town situated in the South India is one of the most successful and vibrant clusters in India as stated in various UNIDO reports. It produces one-third of the total apparel exports from India.

[15]

According to Swaminathan & Jeyaranjan, Tirupur's direct knitwear exports in 1993 were worth nearly US$ 500 million; whereas if indirect exports are also included (taking note of exports of

[15] Photo Credit; www.rediff.com

Tiruppur made garments sold through Bombay and Delhi based traders and producers), this figure jumps to over US$ 900 million[16].

Value Chain Activities		Number of units
1.	Knitting/Stiching units	2500
2.	Dyeing and Bleaching	750
3.	Fabric Printing	350
4.	Embroidery	150
5.	Other Ancillary units	250
6.	Compacting & Calending	200

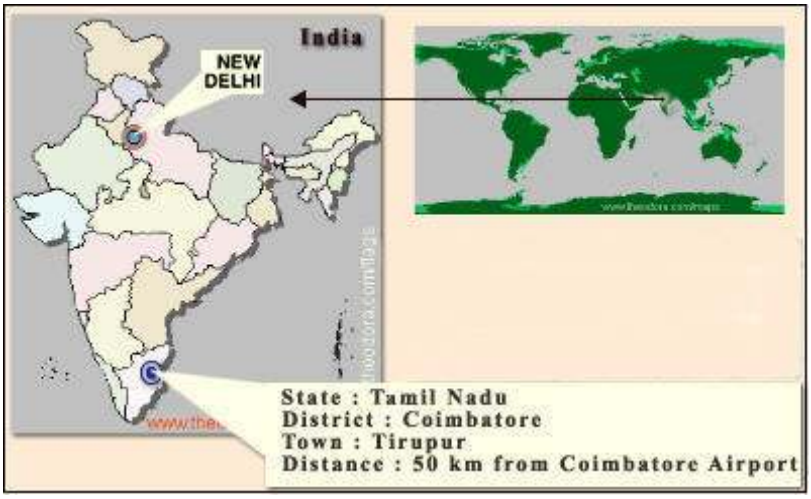
Source: *Background Study of Tirupur, Fair Wear Foundation, 2004*

"Tirupur is a textiles town par excellence. It lies in the heart of a cotton producing area. It has a long history as a processor of raw cotton, as a centre for handloom weaving and as a cotton trading centre. Its cotton exchange traditionally set the price of raw cotton in the state of Tamil Nadu. Moreover, 84 percents of factory industry in Tirupur is textile related"(Cawthorne, 1995). The cluster has a large number of small units and there is a supply chain relationship among producers due to the nature of the production. The major root behind the emergence of this cluster has been the correct approach towards labor oriented technology, inter-firm specialization of labor and a responsive support framework.

In Tirupur textile cluster, there are three types of cotton knitwear garment manufacturers - manufacturing; merchant; and third, non-exporting manufacturers. Tirupur knitwear sector has both local backward and forward production linkages. These include firms undertaking: cotton ginning, yarn spinning, cloth dyeing and bleaching, calendaring, specialist tailoring, screen printing, units providing buttons, elastic, spinning cones, clothing labels, packaging supplies[17].

[16] Swaminathan & Jeyaranjan, 1994
[17] Cawthorne, 1995

Finally, there are a number of institutions and representative trade associations providing support e.g. various agencies of Government of India, UNIDO, Tirupur Exporters' Association (TEA) and, the South India Hosiery Manufacturers Association (SIHMA), South Indian Textiles Research Association (SITRA) and Tirupur Dyers' Association (DTA) etc.



Historically, according to Cawthorne, the first knitting machine was brought to Tirupur in 1925. Six years later there were reportedly five knitting firms in the town. In 1942 there were two registered knitwear firms. The number of knitwear firms in Tirupur rose to over 100 in 1953 and to 438 units in 1961

3.2: Research findings in Tirupur Textile cluster:

The rate of development has been stupendous in Tirupur cluster. In the 1980's the overall export of knitwear garments from Tirupur, were around 500 millions in Indian rupees. The current status is around Rs. 70,000 millions in a year. The living standard of the people in and around Tirupur shows significant changes and improvement.

3.2.0: Networking in Tirupur Cluster:

3.2.0.0: Relations among cluster firms:

In early times this cluster's firms were very small units when they started functioning. Now they have grown huge and many are composite units. Majority of them are manufactures of knitwear garments. Here, the cluster basically works on supply chain relationships as mentioned in various cases of Tirupur. But still, it has a significant number of buyers' liaison offices and buying agents, who place orders to the exporters and oversee all the quality aspects and timely delivery and inform about the condition of the goods appropriately to the buyer before dispatching the packed garments to them.

3.2.0.1: Successful centre for Joint ventures:

It has been found that there are a significant number of successful joint venture firms in Tirupur. One very good reference is the Switcher joint venture from Switzerland in Tirupur for the past 20 years and it had grown considerably. Switcher – Swiss is shifting all its manufacturing activities to Tirupur. Now, its daily production in Tirupur is around 20,000 garments.

3.2.0.2: Role of institutions:

The AEPC[18] sponsors buyer/seller meetings, organizes trade delegations, individual sales tours and sets up market survey teams. The council collects trade data, both locally and internationally. The local Tirupur Exporters Association (TEA) has been set up in 1990, as AEPC's promotional activities, especially with respect to gathering marketing intelligence and exploring new sales outlets. The TEA is described as the most popular of the institutions currently operating in Tirupur. The AEPC and SITRA are collaborating to set up "a research and development cum testing laboratory and training institute" in Tirupur. This provides beneficial inputs to the cluster. It is unlikely that individual producers would be able to finance such facilities.

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[18] Apparel Export Promotion Council, Tirupur

3.2.1: Human resources (HR):

3.2.1.0: Human capital:

It is the back bone of this cluster. People in this region are generally hardworking and very attentive in their work. All units/firms involved in the knitwear garment manufacturing activities work around the clock. The owners and the workers are very passionate and committed and always co-operate with each other. Entrepreneurs report that in the past ten years they have had never faced any severe labour problem or strikes. They have abundant skilled workers and professionals to meets their industry demands. The composite units/firms are gradually becoming more organized in executing the work.

3.2.1.1: Issues of industrial unrest and qualified workers:

The only labor problem visible now is the frequent horizontal shift of a reasonable number of qualified workers from one company to another for better benefits. However, Tirupur cluster occupies only 20 square kilometers and the concentration of thousands of firms in this small area makes such frequent shifting of qualified workers and professionals unavoidable.

3.2.1.2: Skills and training:

Whenever new machineries are imported and installed the selling agents and suppliers of the machines provides the basic training. Apart from that, Tirupur has its own vocational institutes to train people. National Institute of Fashion Technology, fashion educational institute run by TEA, SIHMA Fashion Institute run by the South India Hosiery Manufacturers Associations, and formulation of excellent courses for the apparel fashion industry by several reputed universities like Anna University and Bharthiar University have worked wonders for the boost of the cluster. Nearly fifty colleges that are affiliated to these and other universities have several courses offering excellent scope for the students to develop professional and technical skills in various areas of knitwear sectors right from yarn spinning, knitting and wet processing to printing, fabric

finishing and sewing of garments. Proper training, good working atmosphere, and implementation of all worker oriented welfare schemes have made a strong impact upon the labourers and this had led to the development of a near ideal workforce.

3.2.2: Community and Local culture of cluster:

There are strong connections, since majority of the firm owners and labourers are from the vicinity in and around Tirupur and are mostly known to each other. People from agricultural community own a significant numbers of the firms. Others too are from local or neighbouring communities. National festivals, cultural programs, social activities and many others similar functions help to develop a bond between this cluster's firms and local communities. There is seldom any labor discrimination; it has been observed that they are treated well and wages/salary or other dues are paid timely. In general the cluster firms always recognize semi-skilled or else less-skilled workers when they do their work properly.

3.2.3: Embeddedness with Locality:

The bonds between the labourers and the cluster firms are deeply rooted. Tirupur has a lot of locational advantages. Cluster firms can work 24 hours non-stop if an order has to be dispatched within the stipulated time. Lot of works has been traditionally associated with workers and many workers come from family those have an ancestral attachment with textile industry.

3.2.4: Effects of Globalization in Tirupur Cluster:

The growth so far attained in Tirupur, India, is mainly because of the performance of the firms, and cheap and skilled work force. The contribution of the Government both at center and state level in India is really not encouraging when compared to other countries like China, Malaysia, Singapore and others. The exporters have to pay multiple taxes for most of the accessory and ancillary products that are involved in the process of manufacturing knitwear garments. "The government departments that are involved with the exporters' day to day work are very slow in processing paperwork and bribery is a necessary evil. Many times, even after paying bribes, things are not assured. Bribes have no leverage whether it is lawful work or out of way work"[19].

[19] Sundaram

The cost of processed knit fabrics is 12 to 18 percent less in China when compared with India. But, when we look into the details, the fabric quality and garment sewing workmanship in India is far better than China. In general, unless the customers/end users know about the quality standards of the garments they are buying and using and only if they insist on quality product, do the manufactures anywhere provide quality? The fact is that quality aware customers are limited in volume compared to other sectors and are concerned only with price. Globalization of the economy does have much impact on India in this cluster. Even though firms get volume orders, the prices are dropping significantly. Firms, which are modernized and keep up grading their manufacturing activities, can survive in the long run. Another factor to be noted is that when the firms are moderate or midsized their day-to-day expenses are limited and even if they have no order for a month or two they can meet their commitments. But now-a-days majority of the units are multiplying their production capacity and operation costs are mounting significantly. So, things are not encouraging in several units.

3.2.4: Government Policy:

The Indian government's EXIM[20] policies are really good. However, most of the government departments are not bothered about the growth of the Indian economy. It is very tough to predict whether any significant changes on the organizational level of the government will occur or not leading to worthy promotional developments. Another fact is that the Tirupur Exporter Association, South India Hosiery Manufacturing Association and other similar associations and major political parties have not always presented their case before the governments both at the center & state to avail reasonable benefits for the knitwear sector as compared to other industrial sectors in the state and country. Another fact is that whatever benefits and support are received from the governments is not good enough compared to the needs of the industry. Altogether we can say that the Government of India should stand up firmly to make appropriate policies over this cluster. "Unless entrepreneurs do have strong representation for developing the cluster in Tirupur region they will not get any worthy support and help from the government.[21]" This show the small business groups are not getting enough from the government.

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[20] Export and Import policy, Government of India
[21] Sundaram

3.2.5: Prospects for the future growth:

Committed workers, good climate and situations are essential for development. The entire knitwear sector has upgraded and modernized to meet the needs of the international clothing and competition from other fellow manufacturing countries. The cotton crops are good. There are excellent spinners. A wide range of yarn types in coarse and fine, and also in cotton blends, is available. The quality of yarn, especially of cotton-combed yarn, is really very good when compared to most of the cotton growing countries in the world. The value and commitment of the people involved are very high in standards. For example, even if by mistake if they quote any price less than their break even cost, they will honor the order and always supply the goods in time. The reception given to the importers is truly cordial and honest and the suppliers always love to have warm, long lasting relationships. Strong feeling of kinship and camaraderie among Indians leads to such relations with customers too in the cluster.

CHAPTER 4

Discussion based on Tirupur Industry Cluster

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4.0: Introduction

This discussion is broadly based on qualitative findings of elements of regional economies, based on interview questions. Here, we will consider on some points which have been presented in research findings

4.1: Networking among Firms in Cluster:

Networking is an important element in all SSI clusters. All small units of clusters are equally responsible to create the whole web of cluster. Firms have connected through each other by vertical and horizontal integration. It has been reported that – Tirupur Cluster is still lacking of vertical integration although, process of modernization is bringing the chances for more vertical integration among firms.

The qualitative finding has been that Tirupur has started with a very small level of units but later it developed its networking. Also, networking helps the clusters to move in specific fields. The entrepreneurs here reply that there are a large no. of firms concentrated in only one industry i.e. knitwear garments industry. A successful joint venture of Switcher brand at Tirupur is a good example of nice networking within cluster.

Local and other organizations play an important role in development of networking base inside the cluster and bring a boom in regional economies performance. For example, the AEPC sponsors buyer/seller meetings, organizes trade delegations, individual sales tours and conducts market survey. Also, it collects trade data, both locally and internationally.

4.2: Human resources (HR):

Human capital is the backbone of this cluster. Cheap source of labor and high potential in workforce brings competitiveness in the cluster. As per findings, at Tirupur cluster, labor availability, performance and quality are major elements that affect the development of the cluster and play a big role in improving regional economy performances. Tirupur has got prime position in using its human resource capacity as the owners and the workers are committed to their work and they always co-operate with each other. Entrepreneurs report that for the past 10 years they have had never faced any severe labor problems or strikes and they have abundant skilled workers and professionals. The composite units/firms are gradually becoming more organized in executing the works. Also, its control over the industrial unrest is by nature of the social relations.

4.2.0: Skills and training:

Proper educational and training institutions help the cluster to use its maximum capacity of human resources. At Tirupur, NIFT - Fashion educational institute run by 'TEA' (Tirupur Exporters Associations), SIHMA Fashion Institute run by the South India Hosiery Manufacturers Associations are main source of producing efficient workforce for this cluster.

4.3: Community and Local culture of cluster:

Social and communities linkage is also found as important elements behind the development of cluster. Social and cultural activities and functions always help in developing a bond within this cluster. Involvement of local communities makes the cluster more successful.

Cutting Division

Cutting Division

Stitching Division

Checking Division

Ironing Division

Picture: Skilled workforce engaged in specialized work in Tirupur Cluster

4.4: Embeddedness with Locality:

Embeddedness with a locality is a big factor behind development of any cluster; it creates excellent bonds between actors inside the cluster. Conducive weather, determination and commitment, and easier availability and quality of work force in the firms involved in Tirupur cluster are possible due to value embeddedness with locality. Also, the present status of regional economic factors like tax structure affects the embeddness with locality, as per findings in the Tirupur cluster case. The Indian government support is not up to the mark for the betterment and development of this Industry.

4.4.0: Globalization factor in Tirupur:

Now-a-days, globalization is highly affecting the elements of development in SSI clusters. To compete in the global market clusters should be competitive with all elements lying inside the cluster. For example, the rise in Tirupur cluster is mainly due to the performance of the firms & availability and quality of labor. The discouraging policy of Indian government towards SSI clusters reduces its competitiveness in global market if we compare it to other countries like China, Malaysia, Singapore and others. The cost of processed knit fabrics is 12 to 18% less in China when compared to India. But when we look into detail, the fabric quality and garment sewing workmanship in India is far better than China.

4.5: Environment Issue:

Environment has been important to any cluster development. Tirupur has progressed rapidly in last decades and now some of firm set up their high quality plants to get better produce of their investment although most of firms using traditional system of production plant that create lot of pollution and waste product. There is any fundamental measures have been taken to control the polluted environment. Where as it seems that entrepreneur not much interested to talk on environment in Tirupur cluster but, there should be independent agency or government agency to look after the clean and green environment at Tirupur.

4.6: Government. Policy:

As mentioned earlier, government policy is highly affecting elements in the trend of cluster development in a regional economy. As mentioned in preceding chapters, government policy is central to the eradication of all problems of clusters whether it is infrastructure issues, financial problem or sickness in an SSI cluster. At Tirupur, local entrepreneur does not assume that government policy has ever been in their favor. They mentioned that central government of India not taking much attention on them even this cluster has biggest contributor in export of India then early ages. It has been reported that, government officer behave unresponsively with small entrepreneur that shows that lacking of appropriate policy. Here, it should be single window policy implemented to make things fast at business environment, we will see more on it in next chapter.

CHAPTER 5
Policy Implications & Conclusions

5.0: Introduction:

The process of liberalization started by the Congress government in the year 1991 has created wide opportunities for the development of small-scale industries. The small enterprise has emerged as a focus area for forging and promoting trade. These economic reform programs fostered the emergence of Indian industry as a global competitor with increase in exports. To improve the competitive strength of the small scale industries clusters will need to be implementing suitable policy measures as a most important element of its development. The following policy measures can be discussed in this regard.

5.1: Reverse effect of Globalization and anti Dumping:

Tirupur has been facing a acute problem in global market, its products are not very competitive in compare to products from China either in terms of price or quality. A number of small industries affected or closed or are facing closure because of the inflow of cheap and tax free items from China via Nepal. So, there should be an appropriate bilateral agreement with Nepal to check it. The finished goods should have higher import duties rather than the raw material. Also, international market is packaged with big competitors. Globalization of the economy left much impact on India in this cluster. Now-a-days majority of the units are multiplying their production capacity and operation costs are mounting significantly to compete in market. So, globalization is affecting negatively for this cluster.

5.2: Tax issues:

Sales tax and Excise duty is an important factor for SSIs because large no. of SSIs clusters are involved in production of finished products and its marketing. Exemption from excise duty and sales tax makes SSI products more competitive in domestic market as well in global market. It has been seen that in respect of certain products, the duties of excise and other tax on intermediate goods are higher than on the finished goods. The structure can be improved to enhance the tax relevance.

5.3: Pollution problem:

Tirupur textile cluster become larger than before in last few decades and its covered areas are still not well satisfactory in aspect of marinating clean and green environment. The entire cluster use a lot of chemicals processes to finish its final products. Use of chemicals in factory process also produce it's waste products that's not well arranged to disposed off and it's affecting the local quality of water. Government should draw attention to act on this as it's already suggested by environment research canters of India and abroad.

5.4: Technology factor:

The age of globalization and booming information technology has made all industries highly competitive. The technological change in the Tirupur cluster has been quite slow. There are uncountable reasons responsible for this. The entrepreneurs have not made any efforts for modernization because of their domestic type of setup and selling. Also, there is a lack of availability of appropriate information that induces latest technologies. One of the biggest factors responsible for slow technology enhancement is inadequate flow of credit for investment in technological development. Testing facilities are also not easily available.

Technology Bureau for International Industrial Partnerships and Technology Bureau for Small Enterprises, Delhi, has been providing useful services to the small scale units from many clusters. But, the rate of progress in their performance has not been very impressive. They need sufficient backup, especially in promotion of their activities. In addition to change in their

organizational systems, there should be a focus on quality standard certification e.g. 1SO 9000, ISO 9001 and ISO 9002. Certification should be made compulsory to introduce quality-consciousness among entrepreneurs.

5.5: Employment Law:

As found in Tirupur cluster, lot of units are still going through phase of modernization although, employment law for employment is not for favorable to them. It's quite old and need to revise, it has been found that the existing social security measures such as Employees' Provident Fund, Insurance Act, Maternity Benefits Act and Compensation Act are not easy for entrepreneurs of small scale units to adopt and implement. This affects the SSI units' average competitiveness. Also, employees can go in for strike or challenge for judicial process where dates of hearing are fixed months after filing the application due to slow judicial process in India.

5.6: Co-ordination among various government agencies:[22]

It has been reported in many papers and noticed at small clusters and also in eminent cluster like Tirupur textile cluster about complexity about function of Government agencies, that deal with small scale industries in India, for example, Ministry of SSI, SSIs' Development Commissioner office, Small Industries Development Organization, Small Industries Service Institutes, National Small Industries Corporation, Small Industries development Bank of India, Regional Testing Centers, District Industries Centers, State Financial Corporations, State Industrial Development Corporations, State Small Industries Development Corporations etc. But, in all of them there a lot of cases are due to lack of clearance by them as many units do not fulfill their criteria. Here, the government can look for a common performance evaluation organization for all the above agencies and other organizations in same field.

5.7: Pending Payment Issues:

Pending or dues payment by large companies negatively affects the SSIs unit in cluster. It continues to be a major problem for the Tirupur cluster. To check it, there could be adequate safeguards in the tax realization pattern by marinating credit and transactions transparency and

[22] Title is taken from www.smallscaleindustry.com

by maintaining their records. For example, whenever a creditor company goes to file its tax returns, the recoverable amount should be charged from them and paid to the concerned SSI.

5.8: Protection policy:

Tirupur's entrepreneur reports that India's central government policy does not seem to be very protective towards them except of EXIM policy. In USA, there are special laws for the small scale sector[23]. But in India, there is not any proper program for small scale clusters. Moreover, 50 items have been de-reserved which were exclusively reserved for the small scale sector. In order to protect small scale sector from multinational companies a certain percents of items should be purchased by Central and State Government agencies especially when the items are reserved for the SSI sector. The USA Government policy for protection to indigenous industries can be replicated for Indian SSIs.

5.9: Single window policy:

Due to not being up dated of certain policy and traditional system of working make slow the all business environment of near by. Tirupur and other similar clusters now become an eminent cluster and exporting products contributor and source of foreign currency earner. But, in Tirupur there isn't any single window policy[24] implemented yet as well as it seen in EPZ (now named as SEZ) in Indian region. There are complex business legal processes that make slow business activity in this area and distract the foreign investor as well. As for example: inappropriate partnership act; in which there are four ways to set up a company in India: Partnership, Proprietorship, Limited Company and Private Limited Company. Here, it is seen that the partnership issues are most problematic. So, it can be suggested to there should be options of Limited Partnership as it has in United Kingdom.

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[23] See home page of economic development administration, US department of commerce

[24] Single window policy has been set up by government of India in its SEZ areas to induce foreign direct investment and make more competitive to Indian SEZ, in that government provide facility of quicker and easier way of all legal process

5.10: Conclusions:

The dissertation finds that cluster development elements, and initiatives to improve the competitiveness of the elements, lies inside the clusters. Its uniqueness probably does matter, but not necessarily in the ways suggested by much of the publications and literature. Industrial specialization and existing policy boost up are not the only ways to translate clusters into higher levels of development. The most significant development of industry clusters lies in their framework that how regional economies function. Cluster development programs teach the policy makers to better identify the drivers of the regional economy and the sources of competitive advantage.

Similar to the concept in the literature review, discussions based on the interview responses from the Tirupur cluster confirmed the idea that all clusters are not on the same line of development. In particular, SSI clusters have a vertical and horizontal structure to explore their capacity to reap greater economic benefits as mentioned by Porter (1990). Human resources play a vital part in SSI clusters and provide support for the endogenous growth theory.

Regions that are highly specialized in old rooted industries, like Tirupur textile industries, can produce goods more cheaply only in developing countries with a huge population and a developing economy e.g. China or India.

This dissertation examined the proposition that a higher level of involvement of institutions and government agencies in cluster-based strategies will increase their potential for achieving cluster development. The UNIDO intervention at Jaipur textile cluster has proved that the government intervention at some basic level is important. Most of those interviewed indicated a demand and requirements for a supportive role of government in cluster-based development. On the contrary,

the government has always been an obstacle in India in the development of any SSI cluster. Industry clusters are a useful analytical tool for assessing the structure of a regional economy; with their help local policymakers can better understand how their regional economy functions.

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