SME CLUSTERS IN INDIA

Identifying Areas of Intervention for Inclusive Growth

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Project Director
Prof. S.R. Hashim

Principal Researcher
Prof. M.R. Murthy, Dr Satyaki Roy

ISID
Institute for Studies in Industrial Development
4, Institutional Area, Vasant Kunj
New Delhi – 110 070

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Contents

List of Tables

Executive Summary

The Context

Indian economy shows high levels of growth and per capita income during the recent past, nevertheless, as recognized by the planners this growth has not been much inclusive. The term 'inclusive growth' includes several economic and social dimensions of inclusions. However the scope of this project is limited to addressing a specific aspect of inclusion that is conceiving of a growth process that increases gainful employment. In countries such as India majority of the people have no other assets other than their labour power against which they can earn a living and hence eradication of poverty and deprivation is essentially linked to creating gainful employment. Creating gainful employment is essentially linked to the process by which increasing proportion of the population are being transferred to increasing returns activities. Despite the fact that this high growth was linked to a structural change in employment, nevertheless growth of non-agricultural employment by itself would not mean rise in gainful employment.

The structural change in employment in India over the last three decades reveals the following facts: *a)* The share of Agriculture and Allied sectors in total employment has come down from 68.82 in 1981 to 67.2 in 1991 and declined sharply to 56.67 in 2001 showing a fall in about 12 percentage points during the last decade. Considering NSS results the same trend is evident with a decline of more than 10 percentage point in agriculture during the period 1983 to 2004/05. The major destinations of employment being construction, manufacturing, wholesale and retail trade, transport related activities and financial and business services; *b)* increase in the share of employment has not been caused by an increase in the relative share in investments and did not result in higher levels of relative product per worker either; *c)* Those sectors that contributed to the growth of employment are also the sectors where the share of unorganized workers increased sharply.

There has been a declining trend in global manufacturing value added together with a marked shift in the location of manufacturing from developed to developing countries.

The annual growth of global manufacturing value added slowed from 4.3 per cent between 1995 and 2000 to 2.6 per cent between 2000 and 2005. The growth of manufacturing value added in industrialized countries decelerated to virtual stagnation, growing at only 1.1 per cent in 2000-2005, compared with 3.7 per cent in the previous five years. While in developing countries manufacturing value added growth accelerated to 7 per cent from an already rapid 6.5 per cent.

Hence what follows is exposure to global competition both in home and foreign markets has to a great extent helped releasing the constraints in demand in the domestic market and that would for obvious reasons impact upon the size distribution of industries. Engaging with a vast market basically reduces the size advantages of an individual firm rather spatial agglomeration could help deriving benefits of such huge markets. And especially as more and more the job gets compartmentalized and standardized the less would be the advantages of vertical integration. This scenario favours the promotion of small and medium enterprise clusters that could on the one hand emerge as appropriate industrial organization suitable for the current global structure of manufacture and also could take care of the problem of creating gainful employment. The report primarily concentrates on clusters involved in the production of readymade garments and footwear. The reason behind is that these two sectors show high potentials for growth in exports accompanied by large employment capacities.

The critique of Fordist mass production, the literature on ‘local’ industrial systems and regional science in developed countries, and the literature on small-scale activities in developing countries, have contributed to forming theoretical underpinnings regarding small and medium manufacturing enterprise (SMEs) clusters. The significance of this literature in the present context is that it could help capturing the new geography of production which the standard theories of firm along with the strict assumptions could hardly appreciate. The key point in industry district literature is that successes of micro-enterprise clusters cannot be analysed by investigating individual firms. Their strength lies in clustering together with cooperative competition that opens up efficiency and flexibility gains, which individual producers can rarely attain. Collective efficiency, that characterises successful clusters is the

outcome of both incidental external effects of individual action and consciously pursued joint action.

Garments and Footwear Industry: An Overview

The world apparel market was worth 345 billion US $ in 2007 and during the last decade the market grew at an average of 8 per cent per annum. India ranks sixth after China, EU, Hong Kong, Turkey and Bangladesh in terms of value of exports. Textile and apparel sector in India accounts for 14 per cent of total industrial production and employs around 60 lakhs people directly or indirectly. There had been a decline in the production of garments in developed countries primarily because of the relocation of production sites to low wage countries. As a result world import of garments is mostly concentrated in developed countries. The US alone accounts for 27.22 per cent of the world imports in the year 2007 of readymade garments followed by Germany, UK, Japan, France, Hong Kong, Italy and Belgium. Share of apparel in India's total export basket has also recorded steep decline during this decade. It has declined from 12 per cent share in 2001-02, to 6 per cent in 2007-08.

India's exports of readymade garments accounted for US$7853.85 million for the period January – September 2008 with an increase of 10.72 per cent compared to the same period in previous year. During the month of September 2008, RMG exports accounted for US$706.54 million with a slight increase of 0.82 per cent for the same month of previous year. During this period USA, UK, Germany, France and UAE were the top 5 destination countries accounting for more than 65 per cent share of the India's exports. For the same period exports to UAE increased by 50.32 per cent while exports to USA declined by 3.27 per cent. Sweden and Spain is emerging as a new market for Indian exporters.

The share of India in US imports accounts for 4.3 per cent. China records the highest share of 32.03 per cent followed by Vietnam, Indonesia, Mexico and Bangladesh. During the period 2007/08 and 2008/09 there had been a decline in US imports of apparel showing a percentage change of -6.97 and -3.18 respectively. Despite the fact that there had been global recession during this period China Vietnam and Bangladesh registered a positive growth in their amounts to US imports, while India, Mexico and Indonesia marked a decline in exports to US.

India had the largest number of bovine animals (283 million heads) with a share of 19 per cent followed by Brazil (13 per cent), China (9 per cent) and USA (6 per cent). As a result India assumes a natural candidate for higher output and exports of leather and leather related goods. The major importers of leather articles are USA, Spain, UK and Belgium while China, Mexico, Turkey and Romania are major importers of raw hides and skins. On the other hand Hong Kong, USA and Italy are chief importers of furskins. China, Hong Kong, Italy, USA and France are major exporters of leather in the world. China constitutes 34 per cent of the total leather articles exports followed by Hong Kong (17 per cent), Italy (11 per cent) and France (9 per cent) who are the other major exporters.

Exports of leather from India increased manifold over the years. The export increased from Rs. 290 million in 1956-57 and from Rs. 30760 million in 1991-92 to Rs. 140007.33 million in 2007-08. Today the industry ranks eighth in the export trade in terms of foreign exchange earnings. According to the Council for Leather Exports there are around 26 clusters of small enterprises producing leather and leather related products spread across 11 states in India. Footwear and components account for the highest share, 42.44 per cent of total export basket related to leather and India is the second largest footwear producer after China constituting 14 per cent of global footwear output. India accounts for a share of 2.62 per cent in the global leather trade during 2006. With the exclusion of non-leather footwear, this is slightly higher at 3.41 per cent. The Indian footwear industry provides employment opportunities to a total of 1.1 million people.

In terms of physical quantity exports increased only in the case of non-leather footwear and leather gloves during 2006/07 to 2007/08 and declined in the cases of the rests. However, FOB values show declines in exports of harness & saddlery and leather goods. This implies that in the case of leather footwear, finished leather, leather garments and footwear components although exports declined in physical units, but the rise in unit value outweighed the fall in quantities and recorded a positive change in FOB values. Rise in the unit values during the reference period has been highest in the case of leather garments and leather goods recording an increase of 26.15 per cent and 18.9 per cent respectively. In the aggregate gains in FOB value

by exports of leather and related goods has been in the tune of 4 per cent during the period 2006/07 to 2007/08.

The number of leather footwear exports has been highest from the northern region followed by southern and central region. However in terms of unit value, footwear from southern region fetched the highest value. Tamil Nadu has the highest share, i.e., 36.11 per cent in aggregate exports from India followed by Uttar Pradesh (29.33 per cent) and West Bengal (14.86 per cent). In the case of U.P. leather footwear accounts for 48.14 per cent, the highest share in the total exports from the state, while in West Bengal leather goods accounts for the highest share, that is, 59.28 per cent. In U.P. the other major components of exports are finished leather, harness and saddler and footwear components comprising of 29.37 per cent, 9.5 per cent and 8.16 per cent of the total exports from the state. However in case of West Bengal besides leather goods the other major contributors to exports are leather gloves, finished leather and leather garments having 29.97 per cent, 7.19 per cent and 1.96 per cent of the total exports from the state.

Footwear Cluster: Kolkata and Agra

Kolkata footwear cluster is the largest producer of *Chappals* in Eastern India. It is an artisanally rooted low-technology cluster with predominantly small home based units. Product specialisation is high in the cluster, where units specialise in producing ladies, gents and baby footwear. There are three layers of units in this small enterprise cluster. Those limited few having subcontracting links with reputed brands, produce goods of specified quality with inputs supplied by the parent firms. The second layer comprises units, producing goods of various designs on their own, and sells them through traders. Then there are very tiny units, who do not have any subcontracting link and maintain no relation with the traders. They sell their low valued products in spot markets directly to the wholesalers.

The labour market is fairly flexible and the work is done on the basis of ‘putting out’ system. The workers receive wages on piece rate basis, and their average monthly earnings are even less than the scheduled minimum wages, declared for this occupation. The relationship between trader and the small producer is the key element in the dynamics of the cluster. The small producer has to share an increasing portion

of his economic surplus with the trader in order to increase sales. The mode of payment between the trader and small producer helps transferring the productive capital to the trader. This not only strengthens the dependent relationship but also inhibits small producers in producing higher valued goods that involves greater amount of capital. In a cluster crowded out with large number of small home-based units, everyone faces a stifling competition. And in the face of losing margins, the owner replaces the skilled worker by own labour.

The footwear cluster in Kolkata manifests a typical 'low-road', where the spawning of self-exploitative producers is the response to increased competition. The absence of appropriate institutions those provide collective indivisible inputs and the existence of asymmetric power relation between the trader and the small producer explains the low-road. The intervention of the state in the development of the leather industry in India was never very conducive to foster cooperative endeavour. Rather policies are tailored to favour large and medium enterprises while the scope for exploitation of the small subcontracting units as well as the informal labour market is retained.

Agra is well known for long as one of the major producers of leather shoes. The daily average output in Agra is estimated to be 2.5 lakh to 3 lakh pairs. The footwear cluster in this region supplies around 55 per cent of the domestic demand for shoes and accounts for 22 per cent of India's footwear exports. Around 40 per cent of the city's two million population is directly or indirectly involved in the production or sale of footwear. According to an estimate of Council for Leather Exports there is around five thousand footwear producing units in Agra of which about 60 units are organized firms solely engaged in exports and the rest sell goods to domestic market.

Comparing the use of machines and technology between firms producing for the domestic market and those engaged in exports we find that the organization of production in an export unit involves more detailed division of labour and higher fixed costs, nevertheless there is no large gap in technology between exporting units and those producing for the domestic market. Rather it is basically systemizing the on-going process and blown up to a higher scale with additional nodes of monitoring. In an assembly line of a large exporting unit in Agra starting from cutting to finishing 80 to 100 workers are normally involved in the production of a pair of shoes.

Producers anticipate a decline in the supply of skilled labour in future. Most of them accounted this trend as an outcome of implementing the official ban on child labour. What they argue that skills are generated in the labour force through the traditional way of recruiting next generation as apprentice. The worker's child at an early age used to accompany his parents in the workshop and learn from them how to prepare shoes. This on the one hand reduced the cost of a helper by employing a child labour on the other hand the skill is reproduced with little or no cost. Once the child grows older s/he is no longer interested in doing jobs that fetch a little earning and at the same time in the traditional way of learning it requires lot of patience and docility that an adult would not be inclined to accept. Moreover the training institutes produce designers and leather technologists but they are not capable of supplying trained workers.

The clusters of footwear producers in Agra and Kolkata have both similarities and differences. *First,* Kolkata footwear cluster is primarily known for Chappals that has a relatively smaller market than that of shoes which use to be of a larger variety and hence could be sold to a wider domestic market and abroad as well. *Second*, production of shoes requires greater division of labour than that in chappals and as a result of which the average size of firms are larger in Agra compared to those in Kolkata. *Third,* the labour market in Kolkata is constituted by long term migrants that help reducing the reservation wage. In the case of Agra the workforce mostly comprises of local residents of a definite caste that somehow raises the bargaining strength of the workers. *Fourth,* although the kind of trader-producer relationship that exists both in Agra and Kolkata is more or less similar nevertheless it appears that the number of traders would be of much larger in proportion to producers in Agra compared to Kolkata. As a result of which the trader-producer relation would be more competitive in Agra than that in Kolkata. *Fifth,* what seems important to comprehend is that the existence of large exporting firms do not necessarily has much impact upon the cluster as a whole rather there exists a clear disconnect between the large exporters and those producing for the domestic markets.

Garments Cluster: Tirupur and NCR

Tirupur emerged as a small industrial town in erstwhile Coimbatore district in Tamil Nadu producing knitwear garments and a vibrant centre of activities related to

knitwear. The evolving of Tirupur as the 'T-shirt' town in India, high growth in output and employment, investments in technology and so on was never a result of a smooth continuous process rather there has been sharp rise in the growth of the cluster once it had been linked to the global market. There are 1500 knitting units; 700 units related to dyeing and bleaching; 500 units involved in fabric printing; 300 units are involved in compacting and calendaring; 2500 units are assembling the final product and these are the exporters; around 250 units linked to embroidery activities and another 500 units deal in other accessories. There are very little number of units in Tirupur employing less than 50 workers and the median size in terms of employment are those employing 50 to 100 workers. In the aggregate 30 to 35 per cent of the produce of Tirupur are fashion garments and the rest can be considered as basic garments.

The production organization in Tirupur includes wide variety of subcontracting or outsourcing relationship between firms. The job-working as it is often referred to might be of three different types: a This may be termed as outsourcing or out-contracting in which case the exporter who coordinates the production process assign specific jobs to relatively smaller specialized units; b The second version can be termed as in-contracting which is separating parts of the production process those performed by separated dedicated sections of the same unit but run semi-autonomously by respective managers. This happens in larger units where there is fairly high level of integration; c.In some cases the bigger firms integrate the production process for the sake of their control over the production. But in such situations the capacities created in different sections especially knitting and processing may not be exhausted by the production of the firm alone. Hence the exporting firm besides doing jobs for their own garments work for others as job-work in order to utilize the capacity in full.

Many employers reported a shortage of labour perceived in recent times, the possible reasons of such shortage of labour might be the following: *a)* After the implementation of NREGA and provisioning of rice at Rs.2 per Kg (a special programme run by the Tamil Nadu government) the opportunity cost of working as a migrant worker in garment units have increased and this may have also impacted upon the supply of workers; *b)* There are seasonal factors those influence the

employment pattern in Tirupur. c*)* Because of appreciation in rupee the export units are hardly hit and also because of the financial crisis in US and Europe both owners and workers expected a decline in orders in the near future. This prompted a section of workers not to return from their villages apprehending decline in job opportunities. *d)* Finally over the years there has been a surge of investment in technology in Tirupur. Owners are interested in investing in machines while employing labour at a low wage and that seems to be compatible with the deskilling process. However because of increased opportunities of work even for the unskilled workers, the claim of wages to which they can agree upon to work has increased reflecting in a shortage of labour in the going wage rate.

The future course of growth of Tirupur depends on how the cluster responds to changing demands in various segments of the export market vis-à-vis its competitors. Export performance primarily depends upon costs, quality and strict compliance to delivery time. In the case of mass market it is more of costs and delivery time that matters assuming that a reasonable level of quality is maintained. In such a scenario economies of scale becomes important because higher scale of operation provides the opportunity to reduce per unit costs. In this regard China and Bangladesh is far ahead of India. Second, Tirupur cannot entirely be dedicated to fashion garments because that involves higher risk and uncertainty and at the same time it is very difficult to go ahead of European firms in designs and fashions because of obvious reasons. Third, in relatively more value-added segments the competitive advantage based on low labour cost gradually declines. Rather labour needs to be viewed as human capital in which investments need to be made both in terms of enhancing their technical capacities through training and also by materially enriching them through fair wage. This in any case requires an altogether different approach to the production process in general and to labour in specific. Fourth, in special reference to Tirupur it has been pointed out by many exporters and buying agents that the greatest weakness in the production process seems to be a disproportionate development in technology in various parts of the production chain where dyeing, compacting and printing related works lag behind the rest of the operations. Fifth, there are also important infrastructural hindrances such as acute shortage in power supply in Tamil Nadu. It is also reported that effective rate of interest in India that need to be paid against loans from both public

sector and private sector banks is around 1.5 point higher that what it use to be in China.

The current recession as reported has impacted upon Tirupur in a more roundabout way. Many firms claimed that there is no significant decline in orders and that is because Tirupur basically produces T-shirts for the low segment of the global garment market and hence this segment of near necessaries have not yet felt the heat of demand deficiency in that way. But the effect can be felt in some other ways as follows: a) Jobs related to high valued garments involving embroidery or calendaring is heavily affected; b) In some cases purchases were finally less than the orders given initially that is a drastic decline in orders after goods being made; c) there is delayed payment which increases the cost of capital; d) In view of reducing inventory the importers are putting pressure to reduce lead time from 100 days to 45 days; e) Drying out of credit in most of the importing countries have hardly left some buyers who could do business without depending on bank credits and as a result orders declined for Tirupur not primarily because of a fall in demand for garments but because of credit crunch created in the course of the financial crisis.

Since mid-eighties National Capital Region that includes Delhi, Noida and Gurgaon has emerged as the major site for production and exports of readymade garments. In NCR there is not much variation in size categories in garment units and this is primarily because firms were set up at plots having stipulated size defined by the respective state governments. Production of garments in NCR includes a process of arranging raw materials and intermediate products from different parts of the country and rendering the core activities such as cutting, stitching and finishing in-house. The knit fabric used by firms in NCR come from Ludhiana, yarn-dyed fabrics are sourced from Chennai while cotton cloth are produced at Delhi. Dyeing and printing jobs are largely done by firms located at Sahibabad and Faridabad and sometimes firms get polyester printing done from specialized units located at Ahmedabad and Surat. Printing of tags, stickers and barcodes required for garments are also produced in the same cluster and there are some specialized embroidery units doing job work for the garments unit located nearby. Firms in Delhi, Noida and Gurgaon mostly produce ladies' and kids' woven garments.

In most of the exporting units the production process is organized in an assembly line that is, the production of the whole garment is broken up to a number of phases and detailed sub-phases in which several categories of labour are employed. The length of the assembly line in terms of activities involved is somehow directly related to the number of machines involved as well as the complexity of the garment produced. The length of the production chain varies from those involving 12 to 13 people and in large factories especially in the case of making trousers this may be involving around 100 to even 140 people. The increased division of labour although increases the productivity of labour but this also depends on the size of orders of specific designs. If the orders of specific designs are small relative to the production chain or the length of the assembly line optimal productivity of the labour would not be reached. This also possibly explains the fact why labour productivity in firms producing for the domestic market is relatively low compared to those in exporting units.

The reason behind why most of the large and medium scale firms are engaged in exports and not so much inclined to produce for the domestic market is manifold. *First*, in case of exports the producer does not have to set up its own marketing arrangement to sell the products and can realize the value of products by the single act of delivery to the exporting agent. *Second*, the circulation time in export market is relatively less than that in the domestic market. *Third*, the payment is relatively more secured in exports than that from multiple buyers in the domestic market. Hence the peculiar absence of large producers of garments in NCR selling for the domestic market is a result more of an institutional failure than that of market.

The labour intensity of garment production being high the share of wages in total cost of production has been the major considerations if not the defining factor in choosing the place of production. This has led to the global phenomenon of changing sites of production in search of low labour costs. But the mobility of labour on the other hand has also increased over the years thereby declining the wage differences across space. At least wage difference between Delhi Gurgaon and Noida and places in neighbouring states does not make much difference. The other issue that becomes important is specific tax and other reliefs provided by respective state governments in order to attract new industries. In response to those policies garment units are relocated to spaces where cost of infrastructure turns out to be low giving rise to net

benefits in business. On the other hand in the case of garment production commissioning of a new unit takes relatively less time often even less than a month to shift from one place to another given the fact factory sites are occupied on rent. As a result of which a different kind of dynamics evolve basically to reduce the cost of production and in a way garment units emerge as footloose industries. The shifting of spaces of garment production becomes a real hindrance to long term inter-linkages between firms.

The agglomeration although appears somewhat like an industrial cluster in the conventional sense of the term but actually it has little resemblance to what an industrial cluster really means. Indeed the geographical concentration helps sharing the physical infrastructure that had been created in a planned manner in these places but that is true also for other firms involved in producing engineering goods, ceramics computer software or hard ware and located in these areas. The industrial site was developed keeping in mind the notion of industrial estate which accommodates firms of various sectors in one place providing adequate physical infrastructures such as roads, power and water supply. However the dynamics of industrial cluster is rooted in collective efficiency which presumes a dense network of production organization within firms. In this connection one can easily find that in case of NCR in terms of production linkages firms are more or less similar to stand-alone firms those basically share some common facilities created for the industrial estate. Most of the garment units perform the cutting stitching and finishing jobs in-house. The backward and forward linkages are thin in the sense fabrics are bought from other states. Moreover for the exporting units maintaining quality and also to have greater control over the production process the portion of work subcontracted gradually declines which in a sense reduces further the possibilities of extending production networks within firms.

Ancillaries and High-tech Clusters: Some Observations

The concept of ancillary is primarily in reference to a subcontracting relationship between large and small firms. The relationship between the parent firm and the subcontractors is not necessarily backed by legal contracts but mostly depends on mutual trusts attained through repeated transactions. However since the marketing of the products produced by smaller firms depend on the larger unit there is surely some sort of unequal exchange giving rise to a dependent relationship. The dependent

relationship is reproduced in several ways. Primarily the dependence is due to the lack of access to and knowledge about the market. Moreover, because of the chronic shortage of capital smaller units have to borrow from their parent firm and this strengthens further the dependent relationship. Third, in cases where there are seasonal fluctuations in output during the slack period of the year, the smaller units cannot afford to hold inventories for future. However, if they close their units during off-seasons, it would affect their production even in the peak seasons, as they could not find the skilled workers. This compels the subcontracting units in supplying output to the parent units at a lower rate during slack periods. By this way, the larger units reduce their costs of creating inventories while the smaller units can keep their production running.

Competition and cooperation in a cluster are not substitute modes of interaction. The cluster should continuously create opportunities and environment for fierce competition between firms at the enterprise level while at the same time continuously get exposed to external challenges of competition that facilitate cooperation and joint action between firms in order to access collective indivisible inputs. Firms vertically linked into complementary relations define the division of labour in the cluster. However, over-embeddedness bears the risk of being locked-in to specific clientele relations and reduces the responsiveness of firms to changing markets. Deeper the division of labour goes within the cluster the lesser remains the possibility of optimal use of flexibility if not counterbalanced by the entry of new firms. This is the kind of problem usually emerges in clusters based on ancillaries. Rigid vertical integration reproducing dependence between various sizes categories of firms ultimately evolves as a large hierarchical structure although with inter-firm transactions similar to the putting out or semi-putting out systems.

The high-tech clusters influences the development of software firms in three broad ways. *First*, by increasing the productivity of companies in the area; *second*, by driving the direction and pace of innovation, which underpins future productivity growth; and *third*, by stimulating the formation of new businesses, which expands and strengthens the cluster itself. Companies have been able to operate more productively in sourcing hardware and software, accessing information, technology, and local institutions, coordinating with related companies, and measuring and motivating

improvement. Software firms have been able to tap into an existing pool of specialized and experienced employees, thereby lowering their search and transaction costs in recruiting. It has been easier to attract talented people from other locations because the cluster of firms signal opportunity and reduces the risk of relocation for employees. Many of the foreign owned firms located in the cluster helped in faster diffusion of technology and as a result facilitated in moving up the value curve. At the same time, Indian software firms like Infosys and Wipro opened offices in the U.S., or acquired U.S. companies, to better serve their clients on high-end projects and to have listening posts in Silicon Valley. Thus, physical distance was bridged by the strengthening of cross-national, intra-firm networks and by inter-firm social networks among Indians and overseas Indians.

In spite of the fact that technopoles have similar advantages of creating and sharing contextual knowledge similar to manufacturing clusters there are dissimilarities as well. In the production of computer software the contribution of skilled labour in value addition happens to be the highest and as a result the firm depends more on the labour compared to other manufacturing activities. Since specialized skills are relatively scarce and the cost of labour cannot be depressed easily firms are compelled to compete on the basis of degree of specialization, customization and maintaining strict schedules of delivery. As a result IT clusters are mostly driven by competition of the high road variety. *Second*, the synergies that grow between firms and institutions and networks in an IT park are less dependent on geographical proximity and that also increases the mobility of labour. *Third*, in the case of manufacturing possibilities of dividing the production process into several components and creating inter-linkages are far more higher than in services output and as result the density of firms in software, their inter-linkages are relatively less compared to manufacturing clusters. *Fourth*, because of greater dependence on knowledge inputs IT clusters normally have greater links with universities and technology institutes. Although this is primarily because researches related to innovation in manufacturing goods receive low priority in university education and related institutes. *Fifth*, the social embeddedness of IT clusters happens to be low compared to traditional natural clusters. People involved in various activities in the forward and backward linkages in a manufacturing cluster usually come from local area and that influences the local economy through multipliers. *Finally*, the local formal and informal institutions have

a little role to play in the case of IT clusters. The trusts between firms are mostly acquired through repeated transactions and not built upon those ascribed by some local cultural or sociological norms as it use to be in most of the traditional clusters. Hence local institutions are rarely called for mediating transactions between economic agents.

Policy Prescriptions

Policy prescriptions: *a)* The prime task is to identify clusters having potentials in specializing in the production of specific goods, specific tasks or can cater to market niches. This involves a process of not only identifying potential winners, but, by endogenising public intervention evolve concrete projects specific to those clusters; *b)* Collective indivisible inputs, such as real service centres, training institutes need to be instituted with reasonable levels of autonomy; *c)* Evaluation of cluster development should be primarily based on collective efficiency using meso-level parameters; *d)* A cluster should emerge as a production zone characterized by products/tasks with a minimum quality standard; *e)* Facilities and subsidies given to small firms at various levels should encourage clustering and cooperative competition; *f)* Policies should aim at exposing the cluster to new challenges of competition such that linkages between firms do not get rigidly defined. At the same time some kind of regulation is required to encourage/discourage new start-ups such that easy entry could not generate a race to the bottom; *g)* Proper execution of labour rights is not only required but needs to be promoted through the reward-punishment structure; *h)* Apart from basic physical infrastructures such as roads, water and power supply, public investments are required on human development; *g)* The government should encourage financial transparency and disclosure, such that complex issues related to SME finance becomes more tractable; *h)* A process of regional planning should evolve primarily to take care of the issues specific to the region. This involves a political process and the voice of the cluster should be adequately represented in that process to appreciate their claims in the public good not as individuals or households but with a defined identity of a cluster.

chapter ***1***

Introduction

1.1 Introduction

High growth and development has always been conceived a process linked to industrialization. In the context of developing countries although the vision of 'catching up' is often based on images of advanced countries nevertheless the trajectory has been historically proved to be different. Expansion of industries especially manufacturing in developing countries is not a smooth trajectory and normally involves enclaves of growth those later diffused to a more dispersed process of industrialization. In any case development is conceived as a process by which increasing proportions of the population are driven to increasing returns activities especially manufacturing. This draws our attention to the larger issue of the nature of growth in India in the recent past that undoubtedly being unprecedented but grossly fails to generate an inclusive pattern of growth. Inclusion of the majority people in sharing the fruits of high growth includes several issues and obviously linked to the dimensions of exclusion that is underway. Apart from rising unemployment and poverty, deprivations of specific nature manifests in discriminations by class, caste and gender. Reforms have largely activated the levers of market and that has definitely geared businesses those respond to market signals, but in countries such as India large mass of people are virtually excluded in the process since they lag the requisite capacity to participate in the market. As a result the relevance and necessity of public provisioning of certain key services such as food, health, education and so on becomes important. But decisions of such provisioning and distribution in an effective way are not immune to several forms of discrimination as well. These issues had been addressed by the planners and the goals set accordingly under the broad rubric of inclusive growth.

The term 'inclusive growth' includes several economic and social dimensions of inclusions. However the scope of this project is limited to addressing a specific aspect of inclusion that is conceiving of a growth process that increases gainful employment.

In countries such as India majority of the people have no other assets other than their labour power against which they can earn a living and hence eradication of poverty and deprivation is essentially linked to creating gainful employment. But the issue at hand is creating such employment which effectively means that an employed person's marginal value product of labour should be greater than the subsistence wage. Indeed this can be achieved in agricultural activities by increasing productivity but since production of food and livestock cannot escape the inherent limitations of decreasing returns so faster growth in per capita value added involves growth in manufacturing activities. The role of manufacturing sector in prompting higher growth was captured in Kaldor's first law that states that the faster the rate of growth of manufacturing in the economy, the faster will be its growth of GDP. And this is not simply manifesting a correlation but a strict causality flowing from growth in manufacturing to growth in GDP. Controversies whether services can play the role of 'alternative engine' or at best of an 'additional engine' of growth or not still remain but empirical evidence comparing growth of two of the fastest growing developing countries, India and China definitely urge for the importance of manufacturing in achieving sustained growth. Moreover, recent trends in global industrial development mark a clear signal that growth of developing countries in the global share of manufacturing value added is linked to faster growth and rise in exports therein. As a result policies need to promote manufacturing activities, both final products and tasks those could be linked to global value chains. The size of the domestic market although remains a critical determinant of the export target of a specific country but avenues of export might also be used to employ the surplus labour available in most of the developing countries.

In this context what becomes important is the rising capital intensity of production in large enterprises and hence declining employment capacity. True indeed that size of a specific enterprise in the production structure no longer determines the scale of operation and in many instances vertically integrated large firms might turn to be inefficient given the size of market and the kind of flexibility required. The dynamics of geography in production and the spatial nature of specialization has largely pushed the scalar dimension of production to the back seat. A city as a whole might be housing a large number of horizontally linked firms of different size but producing the same good or task for the global market. In that case vertical integration does not make much sense as it used to be earlier. Firms of varying size are assigned for a

standardized task in the international division of labour and it is the inter-firm relation that largely determines the scope of growth of such agglomerations. This evolving pattern obviously provides greater scope for small and medium enterprises in the growth process. Furthermore in labour intensive sectors, organic agglomeration of firms or clusters can be conceived as one of the major vehicles of promoting inclusive growth.

In this chapter we elaborate the building blocks of the project addressing the following issues briefly: In the past two decades what were the major trends of growth and employment in India and the necessity of inclusive growth as stated above; *b)* Trends in global manufacturing and increased participation of developing countries; *c)* Industrial clusters, emerging as the new unit of analysis and their role in industrial development; *d)* Plan of chapters in the project.

1.2 Trends in Growth and Employment in India

Indian economy shows high levels of growth and per capita income in recent years accompanied by an unprecedented shift of population from agriculture to non-agriculture during the last decade. India's real national income grew by 125 per cent during the economic reform period of 1992/93 - 2005/ 06 compared to 97 per cent during the previous period of the same duration. Consequently the per capita income increased by 77 per cent during 1992/93 - 2005/06. However the entire growth process didn't result in growing gainful employment.

In course of identifying goals for inclusive growth the Approach Paper for the 11th Plan[1] says:

> Targeting faster growth in GDP and doubling of agricultural growth will help in this process though it must be noted that this alone may not be sufficient. On the supply side, the labour force will increase by about 52 million during 11th Plan if it grows at the same rate as current projections of working age population. The increase could be much higher, around 65 million, if female participation rates rise at the pace observed during 1999-2005. Since this increase will be over and above the present backlog of about 35 million unemployed on a typical day, and since inclusiveness requires a shift of

[1] See: *Towards Faster and More Inclusive Growth: An Approach to the 11th Five Year Plan*, Planning Commission, Govt. of India.

employment from agriculture to non-agriculture we must plan for at least 65 million additional non-agricultural opportunities in the 11th Plan. This will not create full employment, but it will at least ensure that the unemployment rate falls somewhat.

Despite the fact that this high growth was linked to a structural change in employment, nevertheless growth of non-agricultural employment by default would not mean rise in gainful employment. Table 1.1 shows the distribution of main workers by industry according to the Census data. In the same table we have computed the distribution of usually employed persons (principal and subsidiary) according to NSS data. Distribution of employment based on the Census data is given for three consecutive Census years and in the case of NSS the table shows distribution of employment for four survey years relevant for the present study. The share of employment according to NSS for the years 1983, 1993/94 and 1999/2000 are taken from the computations done by Mathew (2006) and for the year 2004/05 the distribution is computed using the same methodology. Using the data on total population, labour force participation rates and workforce participation rates in different industry categories given in NSS employment-unemployment survey, 61st Round, 2004/05, we compute the distribution of employed persons for the year, 2004/05.

Table 1.1
Distribution of Employment According to Census Data and NSS Results

Industry	*Distribution of Total Main Workers by Industry According to Census Data*			*Industry*	*Distribution of Employment(UPSS) by Industry According to NSS Data*			
	1981	*1991*	*2001*		*1983*	*1993/94*	*1999/2000*	*2004/05*
A&A	68.82	67.20	56.67	A&A	68.29	63.89	60.28	58.17
M&Q	0.64	0.61	0.61	M&Q	0.61	0.72	0.57	0.55
MANU	11.07	9.44	13.41	MANU	10.76	10.65	10.99	11.81
EGW	0.45	0.43	0.49	EGW	0.28	0.37	0.26	0.25
CONST	1.85	1.95	3.70	CONS	2.25	3.24	4.40	5.57
THR	5.48	7.08	9.39	THR	6.38	7.60	10.26	10.32
TSC	2.74	2.82	4.01	TSC	2.52	2.88	3.68	3.87
FIRB	0.79	1.07	1.96	OS	8.91	10.65	9.56	9.47
CSPS	8.16	9.40	9.76					
Total	100.00	100.00	100.00	Total	100.00	100.00	100.00	100.00

Notes: A&A = Agriculture and Allied, M&Q= Mining and Quarrying, MANU = Manufacturing, , EGW = electricity, Gas & Water Supply, CONST= Construction, THR= Trade, Hotels & restaurants, TSC= Transport, Storage & Communication, FIRB = Financing, Insurance, Real Estate &Business Services, CSPS = Community, Social & Personal Services, OS = FIRB+CSPS

Source: Census data for various years; Mathew (2006) and NSS 61st Round 'Employment and Unemployment Situation in India- Part I' Report No. 515

There is a sharp decline in the share of employment in agriculture both in reference to Census years and according to NSS results. The share of Agriculture and Allied sectors has come down from 68.82 in 1981 to 67.2 in 1991 and declined sharply to 56.67 in 2001 showing a fall in about 12 percentage points during the last decade. Considering NSS results the same trend is evident with a decline of more than 10 percentage point in agriculture during the period 1983 to 2004/05. This significant shift in employment away from agriculture and allied activities was absorbed at varying degrees by different industry groups in non-agriculture. Significant increase in the share of employment in non-agriculture has occurred in construction, trade hotels and restaurants, transport storage and communication, finance insurance real estate and business activities and manufacturing. The share increased twofold or even more in the case of construction and service industries like finance and business services, transport storage and communications and nearly doubled in case of trade, hotels and restaurants. In the case of manufacturing the share also increased although not very significantly given the share of this sector in employment in the initial period.

We briefly refer to how the relative shift in employment of various sectors is linked to growth in output and investment in respective sectors as well as with relative shares in output. Table 1.2 shows the average growth rate in output, average share in GDP at constant prices and average growth rate of gross fixed capital formation (GFCF) at constant prices by industry categories, computed over three consecutive periods from National Accounts Statistics: 1981/82 to 1990/91, 1991/92 to 2000/01 and 2001 to 2005. The sharp decline in the share of employment in Agriculture and Allied sector has also been associated with a decline both in average growth of output and average share in GDP at constant prices in the three successive periods. The average growth of GFCF in this sector declined from 4.32 per cent (81/82-91/92) to 3.69 per cent (91/92-2000/01) and then increased to 6.48 per cent during the period 2001/02 to 2004/05. Sectors gaining in the share of employment during the reference period such as construction and trade hotels and restaurants recorded more or less a consistent rise in all the three parameters, although in case of construction the share of GDP slightly dipped in the third period and the growth of GFCF slightly declined in case of trade hotels and restaurants in the second period. In case of transport, storage and communications both average growth of output and average share in GDP at constant prices increased in the three successive periods however this sector registered a sharp decline in the growth of GFCF from 11.49 per cent in 91/92-2000/01 to 4.11 per cent in 2001/02 to 2004/05. The other sector in which share in employment increased

significantly is finance, insurance, real estate and business services. In this sector however average growth of GDP declined in the three periods although the sector gained in terms of share in GDP. There is a sharp decline in the growth of GFCF from 10.81 per cent to 1.80 in this sector during the last two periods. In the manufacturing sector there is a decline in the growth rate in registered manufacturing during the first two reference periods, however it slightly picked up during 2001/02 to 2004/05. In case of unregistered manufacturing the growth of output has increased from 3.52 per cent to 5.04 per cent and then declined to 4.31 per cent in the third period and the share in GDP shows a consistent decline.

Table 1.2
Average Growth of GDP, GFCF and Average Share in GDP at Constant 1999-2000 Prices

Industry	*Average Growth Rate of GDP*			*Average Share in GDP*			*Average growth Rate of GFCF*		
	81/82-90/91	*91/92 2000/ 01*	*2001/02 004/ 05*	*81/82-90/91*	*91/92 2000/ 01*	*2001/02-2004/05*	*81/82-90/91*	*91/92-2000/ 01*	*2001/02-2004/05*
Agriculture and Allied	3.52	2.82	2.25	34.39	33.66	21.85	4.32	3.69	6.48
Agriculture	3.65	2.81	2.27	31.42	30.77	19.95	4.17	2.86	6.10
Mining and Quarrying	8.53	3.96	5.29	2.37	2.42	2.22	14.13	-1.88	21.35
Manufacturing	6.23	5.92	6.16	14.59	14.62	15.02	9.34	8.19	18.11
Manufacturing (Registered)	8.34	6.45	7.10	8.49	8.67	10.13	11.26	8.16	18.45
Manufacturing (Unregistered)	3.52	5.04	4.31	6.10	5.95	4.89	17.18	10.74	24.58
Electricity, Gas & Water Supply	8.59	6.81	4.69	1.93	2.00	2.32	7.87	2.61	3.75
Construction	4.70	5.07	9.51	5.93	5.88	6.07	10.43	19.51	21.89
Trade, Hotels & Restaurants	5.94	7.47	8.79	11.87	11.92	15.34	5.91	5.89	21.34
Transport, Storage & Communications	5.86	8.11	13.02	6.26	6.31	9.15	6.69	11.49	4.11
Financing, Insurance, Real estate & Business Services	9.10	7.84	7.39	9.23	9.62	13.47	10.62	10.81	1.80
Community, Social & personal Services	5.93	6.50	5.35	13.44	13.57	14.56	3.93	5.17	15.53
GDP/GFCF	5.40	5.59	6.41				6.51	6.05	9.51

Source: Computed from National Accounts Statistics, 2007 and back series.

If we see at a more disaggregated level[2] the increase in the average growth rate is highest in the case of communications which picked up from 6.04 per cent during the eighties to 16.89 per cent in the nineties and 23.36 per cent during the first four years of this millennium. In terms of share in GDP the decline in the case of agriculture was quite sharp in the last decade it came down from 30.77 per cent to 19.95 per cent.

[2] Data at a more disaggregated level are not shown in the table.

Sectors those registered a drastic decline in the growth of investments in the last two periods are storage, banking and insurance, real estate, ownership of dwellings and business services. Hence, it might appear that the share in employment, average growth of output, average share in GDP and average growth in GFCF moved more or less in the same direction although this might not be the case in all the sectors.

In order to figure out the causality between the sectoral shifts in employment, output and investments we look into the relative product per worker[3], i.e. share in GDP divided by share in employment in the respective sectors and share in GFCF divided by share in employment computed both in terms of Census data and NSS survey results. The share in GDP or GFCF for the years 1981, 1991 and 2001 are actually five-year averages with the respective years taken as the middle year and matched with the share in employment for respective Census years. Averages are taken to neutralize abnormal fluctuations if any in the specific years and to take note of the lagged response of employment with respect to changes in investments. In case of NSS data the matching years are 1983, 1993, 1999 and 2004 and three period averages are taken. Table 1.3 and Table 1.4 show the relative changes in output and investment for various industry groups with respect to employment.

The sectors in which the share in employment increased are also the sectors where relative product per worker and share in gross fixed capital formation with respect to employment has sharply declined (Table 1.3). These are unregistered manufacturing, construction, trade hotels and restaurants, transport, storage and communication and financial services. Similar pattern of consistent decline in the share of gross fixed capital formation with respect to share in employment is also visible in sectors showing high employment absorption.

In case of registered manufacturing the relative shares in gross fixed capital formation with respect to employment increased during the reference period (Table 1.3) and that somehow helped maintaining the increasing trend in the manufacturing sector taken as a whole shown in Table 1.4. However, the registered component of the manufacturing sector has little contribution in the aggregate increase in the share of employment in this sector, which is why the relative product per worker shows a declining trend for the manufacturing sector taken as a whole even though it increased in the case of registered manufacturing.

[3] The term was used by Kuznets (1971).

Table 1.3
Relative Product Per Worker and Share in GFCF in Respect to Share in Employment by Industry Groups (Census Data)

Industry	*Relative Product Per Worker (Census)*			*Share in GFCF/ Share in Employment (Census)*		
	1981	*1991*	*2001*	*1981*	*1991*	*2001*
A&A	0.54	0.46	0.41	0.27	0.17	0.18
M&Q	3.34	4.26	3.68	7.34	7.89	3.11
MANU	1.29	1.54	1.12	2.16	3.09	2.15
MANU-R	2.85	4.13	4.81	5.85	9.23	9.55
MANU-U	0.79	0.75	0.44	0.99	1.19	0.79
EGW	3.71	5.32	4.88	27.42	29.63	16.86
CONST	3.38	3.07	1.58	0.63	0.57	0.68
THR	2.11	1.70	1.58	0.65	0.47	0.33
TSC	2.21	2.30	2.09	3.34	4.11	3.31
FIRB	9.94	10.56	6.78	12.10	11.77	9.61
CSPS	1.60	1.48	1.51	2.10	1.42	1.37

Notes: MANU-R= Manufacturing (Registered), MANU-U= Manufacturing (Unregistered), others same as in Table:1.1

Table 1.4
Relative Product Per Worker and GFCF in Respect to Share in Employment by Industry Groups (NSS Data)

Industry	*Realive Product Per Worker (NSSO)*				*Share in GFCF/ Share in Employment (NSSO)*			
	1983	*1993*	*1999*	*2004*	*1983*	*1993*	*1999*	*2004*
A&A	0.54	0.47	0.41	0.35	0.24	0.16	0.15	0.14
M&Q	3.73	3.59	4.13	3.93	10.38	7.17	3.53	3.95
MANU	1.34	1.36	1.37	1.28	2.50	2.75	3.08	3.11
EGW	6.24	6.56	9.53	9.08	44.34	32.25	34.21	27.65
CONST	2.60	1.80	1.30	1.16	0.51	0.34	0.41	0.46
THR	1.82	1.62	1.39	1.51	0.43	0.42	0.28	0.32
TSC	2.42	2.31	2.05	2.59	3.39	4.07	3.44	2.95
OS	2.40	2.41	2.89	2.94	2.88	2.59	3.01	3.02

Notes: OS= FIRB+CSPS and the abbreviations have the same implications as in Table 1.1

Hence increase in the share of employment in various sectors has not been accompanied by an increase in the relative product per worker and also not being caused by a relative increase in the share of investments. The fact is reflected further by the increase in the unorganized component in the labour force employed in different sectors.

Table 1.5 shows that the expansion in the relative share in employment in different sectors is also accompanied by a sharp increase in the share of unorganized workers in respective sectors and also in terms of rise in the share of unorganized workers within industry groups. The relative share in unorganized workers for the construction sector, trade, transport storage and communication and financial and business services more than doubled during the reference period. The data on unorganized employment by industry categories is arrived by deducting the number of organized workers given in

Economic Survey 2005/06 for respective years from the number of Total Main Workers for the same years given in Census data.

Table 1.5
Distribution of Unorganised Workers of Total main Workers by Industry and Share of Unorganised Workers in Various Industry

Industry	Distribution of Unorganised Workers of Total main Workers by Industry			% Share of Unorganised Workers in Various Industry		
	1981	1991	2001	1981	1991	2001
A&A	75.92	73.60	61.73	99.15	99.24	99.18
M&Q	0.25	0.25	0.34	34.44	37.24	49.95
MANUT	9.34	7.96	12.45	75.83	76.43	84.51
EGW	0.15	0.11	0.19	29.40	23.23	34.77
CONST	1.48	1.67	3.66	72.17	77.95	90.09
THR	5.91	7.64	10.13	96.82	97.77	98.28
TSC	1.68	1.91	3.30	55.20	61.60	74.96
FIRB	0.42	0.62	1.57	47.44	52.38	72.87
CSPS	4.85	6.22	6.63	53.46	59.97	61.81
Total	100.00	100.00	100.00			

Source: Computed from Census data and Economic Survey 2005/06

The share of unorganized workers in total employment in the manufacturing sector remained almost same that is 75.83 per cent in 1981 and 76.43 per cent in 1991 however it increased to 84.51 per cent in 2001. The same share for the construction sector increased from 72.17 per cent to 77.95 per cent and further to 90.09 per cent during the same reference periods.

In the year 2001 the share of unorganized workers in the trade hotels and restaurants, transport storage and communication and financial and business services went to 98.28 per cent, 74.96 per cent and 72.87 per cent respectively.

Thus the structural change in employment in India over the last three decades reveals the fact that *a)* significant shift in employment has occurred from agriculture to non-agricultural sectors and the major destinations of employment being construction, manufacturing, wholesale and retail trade, transport related activities and financial and business services; *b)* increase in the share of employment has not been caused by an increase in the relative share in investments and did not result in higher levels of relative product per worker either; *c)* Those sectors that contributed to the growth of employment are also the sectors where the share of unorganized workers increased sharply.

1.3 Trends in Global Manufacturing

The declining trend in global manufacturing value added has been accompanied by a marked shift in the location of manufacturing from developed to developing countries. The annual growth of global manufacturing value added slowed from 4.3 per cent between 1995 and 2000 to 2.6 per cent between 2000 and 2005. The growth of manufacturing value added in industrialized countries decelerated to virtual stagnation, growing at only 1.1 per cent in 2000-2005, compared with 3.7 per cent in the previous five years. While in developing countries manufacturing value added growth accelerated to 7 per cent from an already rapid 6.5 per cent *(Industrial Development Report, 2009)*. However, faster growth experienced in developing countries has been correlated to the extent of sophistication and diversity of their manufacturing output and exports. These patterns substantiate the notions of 'new structuralism' that says that growth of a developing country is not only dependent upon the extent of structural change from agriculture to manufacturing but also on the structural composition of the manufacturing output itself. Imbs and Wacziarg (2003) finds a U-shaped relationship between specialization of production and per capita income of the country. This means in a sense that at a low level of income a country is specializing in producing a low value added product and as income level grows countries produce products with create diversification and finally reaching a higher level of income countries stop producing some and specialize more on producing high value added goods. The same pattern is visible in the case of exports as well.

Increasingly industrialization is becoming "lumpy" in products, space and time. In terms of products it is lumpy in the sense it is becoming increasingly difficult to shift from one product range to another and the choice is becoming increasingly limited to moving up the ladder in a given range of production. Hence the geographical division of production sites happens to be more or less rigid and to remain buoyant there needs to be continuous upgrading over time. These trends in any case go against new entrants because the benefits of agglomeration cannot be reaped before a critical level is reached and hence clusters or production sites already established are in an advantageous position both in regard to output and exports.

However developing countries have also increased their share in trade in manufactures and those who gained are also those who could climb up the value

chain. Trade no longer implies only trade in finished products rather trade increased in tasks as well. Once the production process could be divided into several parts and could be standardized the advantages flowing from tacit knowledge in specific regions or agglomerations gradually declines. As a result scope for a new international division emerges that not only makes room for those producing final products but also those capable of specializing in a specific task along the production chain. This has other implications also. The global value chain driven by large corporations used to tie up production sites across the globe involving suppliers of intermediate inputs. This was a more rigid kind of structure but when several regions and specifically firms in a region compete on tasks the production structure becomes more flexible and reduces the dependence on buyers in that way. Although new arrangements might emerge as less oligopsonist nevertheless global buyers might be having greater opportunities to squeeze competing regions specializing in definite tasks.

The most significant change that happened to producers in developing countries in the process of globalization is that they are increasingly exposed to global competition be it in the domestic market or in exports. On the one hand this has to a great extent helped releasing the constraints in demand in the domestic market and as a result the size distribution of firms related to market size would definitely undergo significant change. On the other engaging with a vast market basically reduces the size advantages of an individual firm rather spatial agglomeration could help deriving benefits of such huge market. And more and more the job gets compartmentalized and standardized the less would be the advantages of vertical integration. This scenario favours the promotion of small and medium enterprise clusters that could on the one hand emerge as appropriate industrial organization suitable for the global structure of manufacture and also could take care of the problem of creating gainful employment.

1.4 Cluster of small firms

The new industrial paradigm calls for understanding the dynamics of industrial organization at the meso level. Macro level studies provide insights on the impact of policies on the growth of firms while micro level studies mark their point of investigation on efficiency of individual firms. But given the fact that competitiveness and growth of industries in many developing countries largely depends on the

interactions of similar sized firms and how they respond to changing markets, such structures could be analysed with a different set of conceptual tools. However the role of small firms can be looked into two different ways. One is the mode of production approach which tries to locate petty commodity production as a dependent category in the global process of capitalist production. In that sense small firms with less capital intensity crop up more in developing countries because of the poor and fluctuating market in such countries. However how these firms can attain certain level of dynamism and how the dynamics is determined by their collective existence rather than individual dependence can be captured in industry district literature.

Clusters can be defined as sectoral and spatial concentration of enterprises, having a definite kind of dynamism in production organization that opens up efficiency and flexibility gains. However, agglomeration by itself does not necessarily generate collective efficiency. Attributes of cumulative competitiveness in an industrial cluster do not depend much upon strict homogeneity in size. Organisational synergies and interdependence of firms in vertical and horizontal linkages are more important issues than strict notions of size and scale of firms. This kind of production organization distributes risks of investment, stabilizes labour redundancies tied to business cycles and also resilient to external shocks. Porter (2003) defined clusters as geographically close groups of interconnected companies and associated institutions in a particular field, linked by common technologies and skills. They normally exist within a geographic area where ease of communication, logistics and personal interaction is possible. Clusters are normally concentrated in regions and sometimes in a single town.

Using multi-criterion approach clusters are categorized into some very general types based on either spatial characteristics, interfirm linkages or both.

Marshallian: Clusters comprising primarily of locally owned, small and medium-sized firms concentrated in craft-based, high-technology, or producer services industries. Substantial trade is transacted between firms. Specialized services, labour markets and institutions develop to serve firms in the cluster.

Hub and spoke: These are clusters dominated by one or several large firms surrounded by smaller suppliers and related activities. Co-operation exists

between small and large firms but noticeably absent is much coopration among competitor firms to spread risks, stabilize markets and share innovations.

Satellite platforms: industry clusters dominated by branch facilities of externally-based multi-plant firms. These branch plants are large and relatively independent. Minimal trade or networking takes place among the clusters' branch plants and the incidence of spin-off activities is relatively small.

State-anchored industry clusters are regions where the local business structure is dominated by a public or non-profit entity (e.g. military base, university, government offices). Supplier and service sectors develop around these public facilities, but these local firms are relatively unimportant to the development of these clusters.

To understand the inner dynamics of micro-enterprise clusters, *Industrial district* literature, which evolved from the success stories of European clusters, offers an analytical framework to understand the problems of small producers as a constellation of interlinked factors. The critique of Fordist mass production, the literature on 'local' industrial systems and regional science in developed countries, and the literature on small-scale activities in developing countries, have contributed to forming theoretical underpinnings regarding small and medium manufacturing enterprise (SMEs) clusters. The key point is that successes of micro-enterprise clusters cannot be analysed by investigating individual firms. Their strength lies in clustering together with cooperative competition that opens up efficiency and flexibility gains, which individual producers can rarely attain. Collective efficiency, that characterises successful clusters is the outcome of both incidental external effects of individual action and consciously pursued joint action. [see Schmitz,1992 and 1999; Brusco,1982; Schmitz and Musyck, 1994; Humphrey and Schmitz, 1996; Nadvi and Schmitz,1998; Holmstrom, 1994;1992; Nadvi and Kazmi, 2001; Rabellotti,2001]. This kind of industrial organisation is believed to be appropriate in the context of rapidly changing pattern of demand. It distributes risks of investment, stabilises labour redundancies tied to business cycle, and is resilient to external shocks.

Although experiences of Italian clusters, popularly known as Third Italy are considered as benchmark models in the study of industrial clusters, a large volume of

literature related to case studies of clusters situated in Germany, Denmark, USA, Japan in the developed countries and those in Asia and Latin America help evolve an analytical framework to analyse industrial clusters. Researches often refer to 'high' and 'low' road growth path to industrial restructuring. The former implies competition based on efficiency enhancement and innovation as well as safeguarding workers' rights and wage gains. The latter, more common in developing countries, entails destructive competition based on cutting costs, using unprotected and undervalued labour. However we mostly find mixed strategies of both high and low roads in clusters in developing countries. [see Vander-Loop, 1994; Holmstrom, 1994; and, Hansohm, 1992; Tendler and Amorim, 1996; Tewari, 1998; Dupont, 1998; Knorringa, 1999; Swaminathan and Jeyranjan, 1994; Cawthrone, 1995; Okada, 2007, Goyal *et al*, 2004] International institutions such as UNIDO carried out a number of network development projects in India as well as in other parts of the world. Enterprise and Cooperatives Development Department of ILO also has significant contribution to the understanding of appropriate policies related to cluster development.

The strength of cluster studies emanate from its approach that goes beyond the strict assumptions of neoclassical theory of firm, *viz*., constant returns to scale, zero transaction costs, full and costless information and the absence of externalities. These assumptions make geography irrelevant to the choice of location for most industries. If there is constant returns to scale production is highly divisible, and there are no penalties associated with setting up a small plant to serve a local market. With full and costless information, it is not important to be physically close to purchasers or suppliers. In the absence of externalities, there is no rationale of being close proximity with other producers, rather this would invite unwanted competition from co-located firms in the same industry. Hence these assumptions hardly capture the new geography of industrialization and could not provide any meaningful clue to understanding agglomeration economics. However there is lack of a comprehensive framework in cluster studies as well, especially those focus exclusively on meso level issues ignoring the broader macro perspective. Finally, in the literature it is assumed that collective efficiency would be generated by cooperative competition and that should have its impact upon individual firms. But this can hardly explain the technological upgrading in production with respect to changing markets. This aspect needs to be studied in relation to individual firms as the unit of analysis but how the

meso level changes affect individual firm's decisions is an area that is still to be adequately theorized.

1.5 Plan of the Project Report

The project report is organized as follows:

Chapter Two: This chapter comprises of a brief appraisal of policies and debates related to small enterprises or small scale per se followed by data on industrial clusters in India and specific policies related to industrial clusters.

Chapter Three: In this chapter a broad overview of the trends and patterns of growth and geographical distribution of garments and footwear industry in India is revealed.

Chapter Four: This chapter elaborates case study of Kolkata footwear

Chapter Five: Reports case study of Agra footwear cluster.

Chapter Six: Reports case study of garment producing cluster, Tirupur specializing primarily in knitwear garments

Chapter Seven: Reports case study of garment producing cluster in National Capital Region, specializing primarily in woven garments.

Chapter Eight: This chapter analyses cases of ancillaries characterized by specific subcontracting relations in garments producing units in Gardenreach, Kolkata and high-tech cluster of information technology firms.

Chapter Nine: This chapter finally draws some broad policy prescriptions.

chapter **2**

Policies on Small Scale Sector: A Brief Appraisal

2.1 Introduction

Policies specific to protection and reservation of small scale enterprises in India has its historical roots way back in the pre-Independence period. Planners conceived a vision of industrialized India with growing capitalist enterprises either by transforming the existing merchant capital or by transforming the pre-capitalist producers who exchanged in the market on a customary basis. Despite the fact that there were varying perspectives on account of the path of this transformation to modernism especially between Nehruvian and Gandhian way but small enterprises gained importance in policy resolutions both in pre-Independence and post-Independence period. This was also driven by political considerations during the Independence movement primarily to integrate the peasant mass into the movement and also in addressing the massive growth of urban unemployment during that period. In the Second Five year Plan within the Mahalanobis Model the role of small enterprises was conceived to be the sector producing consumer goods especially wage goods for the economy.

The 1956 Industrial Policy Resolution specifies fields of activity for the public and private sectors in industry and lists the broad objectives of industrial policy, explains their rationale and suggests strategies to fulfill the objectives. One of the objectives of this resolution relates to the small industry sector. In this context, the resolution says:

> The Government of India would, in this context, stress the role of cottage and village and small scale industries in the development of the national economy. In relation to some of the problems that need urgent solutions, they offer some distinct advantages. They provide immediate large scale employment; they offer a method of ensuring a more equitable distribution of the national income and they facilitate an effective mobilisation of resources of capital and skill which might otherwise remain unutilised. Some of the problems that

> unplanned urbanisation tends to create will be avoided by the establishment of small centres of industrial production all over the country. The State has been following a policy of supporting cottage and village and small scale industries by restricting the volume of production in the large scale sector by differential taxation or by direct subsidies. While such measures will continue to be taken, whenever necessary, the aim of the State Policy will be to ensure that the decentralised sector acquires sufficient vitality to be self supporting and its development is integrated with that or large-scale industry. They State will, therefore, concentrate on measures designed to improve the competitive strength of the small scale producer.

Later, the other two policy statements issued by the government of India in 1977 and in 1980 both reflect government's continued concern for this sector. However in the process of integrating the small scale production in the planning process the Gandhian vision of relying on village and cottage enterprises with less or without any hired labour had been pushed to the backseat and it was designed in a way to facilitate small capitalists who would be interested in producing commodities and with hired labour (Tyabji, 1989). The existence of participation of traditional craft based units in consumption goods sector use to be considered a sign of disguised employment. Hence policies were primarily targeted towards creating a modern small scale sector providing wage employment to a vast majority of people who could be released from the agricultural activities. In most of the late industrializing countries new industries normally came up in large industrial enclaves and that happened primarily because scale and scope economies were already large to start with. Once these enclaves get deep rooted and produce for the domestic market opportunities for participation in forward and backward linkages opens up for smaller firms especially in the consumer goods sector in which the economies of coordination plateaus down quickly. As a result the average size of industries use to decline in late industrializing countries, contrary to that in advanced ones where more and more artisanal units are drawn into large vertically integrated structures. Hence the opportunity of promoting small enterprises gradually unfolds as the late industrializing country moves toward greater industrialization.

There is no doubt of the fact that the government of India as well as various state governments were pursuing policies of protecting and promoting small industry for long since independence but such policies remained confined on providing information, consultancy, entrepreneurship development, training, modernisation and technology support, raw materials, marketing, finance, reservation, ancillary development, etc. But the relative allocations of outlay and investment in the plans had not been commensurate with the importance given in various policy resolutions. Moreover in course of time the growth of large scale production had been much faster than that of the small sector and within the small scale sector the growth of the modern segment had been much faster than that of the traditional enterprises. These trends were in tune with the prime objective of the plans that is promotion of modern capitalism replacing gradually pre-capitalist structures.

The other important objective of protecting and promoting small enterprises was the creation of employment in a capital scarce labour abundant economy. But in that case the little amount available capital needs to be spread across the vast number of labour and in which case the marginal product of labour could be even lower than their subsistence wage, very similar to the case in agriculture in developing countries. As a result the creation of employment without generating adequate income in that sense ultimately lands up to a scenario of poverty sharing. In this view in order to increase income especially in a capital poor country, small units can be preferred since they use to operate at less capital-income ratio compared to large enterprises. But on the other hand large enterprises usually produce at a lower unit costs compared to the small producers and hence would automatically emerge as winners in the market. As a result given the structure of endowments, if the country believes in increasing income, employment becomes relevant only in the sense it might help in saving scarce capital. And to achieve higher income although small scale production may be favourable but simply it would not be supported by the market and hence requires protection and reservation from the state. There is also a counter argument in this context that in order to increase income in the long run it would be wise to maximize surplus for future investments and on that count small enterprises no longer stand favourable. The policies to protect the small enterprises are based on the assumption that small enterprises are labour intensive compared to a large unit in the same industry and hence have larger potentials to provide employment even though the unit costs of

production are relatively larger in small scale units. However this presumption is not beyond doubt as it cannot be generalized for all industries with varying organic composition of capital (Sandesara, 1988).

In this connection we briefly look into the reservation policy for small enterprises that has been very significant in defining the growth path of small scale sector in our country.

2.2 Reservation Policy: A Brief Appraisal

Reservation of products for exclusive manufacture in the small scale sector as a policy instrument for its promotion owes its origin to the Industries (Development & Regulation) Act, 1951 (section 11B). As per this policy, creation of fresh capacity in the large/medium sector in reserved areas is permitted only if the unit agrees to an export obligation of a minimum of 75 per cent of its production. The main rationale for reservation of items for exclusive production in the SSI sector were the feasibility of producing an item in the SSI sector without compromising on quality; level of employment generation, diffusion of entrepreneurial talent and prevention of economic concentration etc. The amendment of the I(D&R) Act,1951 issued in the year 1984 provided for the constitution of an Advisory Committee on Reservation that would meet periodically and consider reservation issues.

The reservation policy was initiated in 1967 with 47 items which was extended to 504 items by 1978. Table 2.1 shows the number of reserved items over the years. In 1978, the reservation list was recast into NIC codes and the number of items turned to be 807. Since then, from time to time some items have been added and also some items have been deleted from the list. The net number of reserved items reached the highest at 873 in 1984 and it declined thereafter. In addition based on the requirements, the nomenclature of certain items has also been changed and 836 items came to be reserved for exclusive manufacture in the small scale sector till 1989. At the 9-digit product code level, the total number of reserved products covered under 836 reserved items was 1045. In the year 1991 GOI issued a gazette notification identifying 807 items for the reserved list, thereafter no new items had been included in the list.

Table 2.1
Number of Items included
in the Reservation List over the Years

Year	*No. of items reserved*
1967	47
1970	55
1974	177
1978	504
1980	833
1984	873
1986	863
1989	836
1991	807

Source: laghu-udyog.com

The basic features of reservation policy were as follows:

1. The policy is applicable only to the manufacturing sector. It does not take into account the service sector, including product repair.
2. No new unit in the medium or large-scale sector is allowed to be set up after the date of reservation, nor is any further capacity expansion in the existing medium- or large-scale units permitted. All further expansion or capacity creation is reserved for the small-sector only.
3. Existing large-scale units that were manufacturing these reserved items at the time of reservation were allowed to continue their activities indefinitely but their capacity was frozen at the existing levels, they were prohibited from expanding further.
4. Creation of new capacity in the reserved areas is permitted among medium- or large-scale units if they undertake to export a minimum of 75 per cent of their production (50 per cent in the case of ready-made garments).
5. There is no restriction on the marketing by large units of big companies of products reserved for manufacture in the SSI sector.
6. A statutory Advisory Committee on Reservation was established to undertake the review of firms from time-to-time for de-reservation of items which are already reserved, reservation of new or additional items, and change the nomenclature of items. While taking a decision for reservation, the Committee is required to go into aspects like, *i)* economy in production, *ii)* level of employment generation,

iii) scope of diffusing entrepreneurship and *iv)* prevention of concentration of economic power.

Share of reserved items in the SSI sector:

- 65.3 per cent of the reserved items were concentrated in four product groups: Chemicals and Chemical Products, Metal Products, Transport Equipment and Parts, Rubber and Plastic Products
- As per the Second All India Census of small scale industries held for 1987-88, reserved items accounted for 11.3 per cent of the total number of items produced and 28.3 per cent of the total production in the SSI sector. The capacity utilization in the reserved sector was 48 per cent. Just 68 reserved items accounted for 81 per cent of the total value of production of reserved products and 83 per cent of the units.
- As per the Third All India Census of small scale industries held for 2001-02, reserved items accounted for 16.4 per cent of the total number of items produced and 13.6 per cent of the total production in the SSI sector. About 17 per cent of the total employment in the registered SSI sector and accounted nearly 10 per cent of the total exports of the sector.

The new context of liberalised regime:

Quantitative Restrictions (QRs) in India, which took the form of import licensing, have been gradually removed but in a substantive form they were removed in April 2000, when 715 items were placed on the Open General License (OGL) list. Another 714 items were placed on the OGL list in April 2001. The removal of QRs on 1,429 items was the direct consequence of the Indo-US agreement carried out within the provisions of WTO.

- There has been a rapid increase in FDI inflow into diverse sectors of Indian industry as a result of financial liberalisation. This would have created not only threats through greater competition, particularly in non-durable consumer goods industries but also opportunities for outsourcing in durable consumer goods and capital goods industries, to small enterprises.

- The public sector has been a major customer of small enterprises in India. The declining role of the public sector has resulted in reduced growth or even absolute reduction in public sector demand for small industry products in the 1990s. The relative role of the public sector as a distinct entity declined further bringing down public sector demand for small industry products.

Observations/ Recommendations of the Abid Hussain Committee:

1. Reservations have played only a limited role in promoting small scale industries while restricting large industries in these industries. Since reservation policy did not allow small enterprises to grow above a certain investment limit. This provides a perverse incentive to accumulate capital by moving horizontally to build a number of small units, rather than moving vertically up to become a larger unit.
2. In the case of many items the manufacture of these items at appropriate quality and efficiency levels requires an investment which is well above the existing investment limits.
3. As a result of import liberalization policies and those pertaining to promotion of exports, as recommended by the Vijayaraghavan Committee, 698 items on the list of reserved products are exposed to free/easy imports. Besides, phasing out of quantitative restrictions and scaling down of tariff and non-tariff restrictions to import makes reservation for SSIs of little relevance. With increasing competition as a result of liberalization, existing small units as well as new entrants must be provided the opportunity to operate at optimum economies of scale.
4. Large industries supplying raw materials to small units engaged in the production of reserved items also are deprived of large buyers in the domestic market.
5. In general small scale units do not need protection by reservation and can survive in free markets due to product differentiation and catering to the niche markets.
6. The removal of reservation will foster greater equity participation from large Indian companies and foreign investors along with greater subcontracting.
7. Although it is assumed that de-reservation will not substantially affect the existing units, since the vast majority of the units in the SSI sector are tiny units it is

necessary to provide some support for those which may encounter difficulties during the transitional phase.

Gradual deletion of items from the Reserved List

In the context of liberalized trade the rationale for exclusive protection for small enterprises becomes weak as little justification is left to the point of protecting small enterprises by restricting entry of large enterprises in the reserved category while exposing them to compete with products imported from abroad, that is those included in the OGL list(see Table 2.2).

Table 2.2
List of Reserved Items for SSI Put to OGL List

Year	*Items reserved for SSI*	*Items on OGL*	*Remaining items under reserved list*
1998-99	821	478	343
1999-2000	812	576	236
2000-01	812	643	169
2001-02	799	799	Nil

Source: laghu-udyog.com

As more products were included in the OGL list small enterprises had to face competition from imported products and hence protecting small scale producers from large scale producers becomes meaningless. Hence de-reservation of many of the items erstwhile included in the reservation list came out as a natural outcome. The number of items deleted from the reserved category in successive years is shown in Table 2.3.

Table 2.3
Number of Items De-Reserved Since 1997

Period	*Number of Items*
1997-2001	39
May,2002	51
May, 2002-2003	75
Octobet,2004	85
March, 2005	108
May, 2006	180
January, 2007	87
March,2007	125
February,2008	79
October, 2008	14
Total	**804**

Source: Same as Table 2.1

Although the list of reserved items gradually declined nevertheless the mode of protection remains as one of the tool to promote small enterprises The issue of reservation/dereservation of product is examined on a continual basis by an Advisory Committee on Reservation constituted under the I(D&R) Act 1951, which is presently headed by the Secretary (MSME) as Chairman. The present policy of encouraging growth of micro and small scale industries is based on several promotional measures including reservation of products for those there is techno-economic justification for exclusive manufacture in the small scale sector. As on 10th October 2008 there are 21 items reserved for exclusive manufacture by micro and small enterprise sector the list of which are given in the Table 2.4. There is also a price preference policy related to cottage and small enterprises. The marketing assistance to the small scale units through preferential purchase by the Central and State Purchase Organisations was recognized and the

Table 2.4
List of Items Reserved for Exclusive Manufacture by Micro and Small Enterprise Sector (As on October, 2008)

SNo.	*Product Code*	*Mane of the product*
	20-21	**Food and Allied industries**
1.	202501	Pickles and Cutneys
2.	205101	Bread
3.	21100102	Mustard Oil (except solvent extracted)
4	21100104	Ground nut Oil(except solvent extracted)
	27	**Wood and Wood Products**
5	276001	Wooden Furniture and Fixtures
	28	Paper Products
6.	285002	Exercise Books And Registers
	30	**Injection Moulding Thermo-Plastic Product**
7.	30391201	PVC pipes including conduits upto 110mm dia
	30393501	Fittings for PVC pipes including conduits upto 110mm dia
	30-31	**Other Chemicals And Chemical Products**
8.	305301	Wax Candles
9.	314201	Laundry Soap
10.	317001	Safety Matches
11.	318401	Fire works
12.	319902	Agarbattis
		Glass and Ceramics
13.	321701	Glass Bangles
	33-35	**Mechanical Engg. Excluding Transport Equipment**
14.	340101	Steel almirah
15.	341004	Rolling Shutters
16.	34200602	Steel Chairs-all types
17.	34200702	Steel tables-all other types
18.	342099	Steel furniture-All other types
19.	343302	Padlocks
20.	345207	Stainless Steel Utensils
21.	345202	Domestic Utensils-Aluminium

Source: laghu-udyog.com, Development Commissioner, Ministry of Micro, Small and Medium Enterprises

emphasis was reiterated in the Government Policy in 1991.The list of 409 items reserved for purchase from the SSI sector was reviewed recently and after deleting items having common nomenclature and making the entries more generic as well as addition of new items, a revised list of 358 items was approved by the Committee which also includes 8 handicrafts items reserved for purchase from the Handicraft Sector.

De-reservation was proposed in view of releasing the potentials of growth for small firms hitherto operating on items included in the reserved list. It is assumed that de-reservation would provide incentives to accumulate capital by moving vertically up to become a larger unit instead of horizontally by multiplying the number of smaller units. Looking from the angle of creating large scale employment both skilled and unskilled and also to avoid informalisation, a similar view is held in a different way: saying, that reservation actually hampered the growth of large scale labour intensive industries in India and this could be triggered through the process of de-reservation. However, there has not been sufficient study looking into specific sectors, erstwhile reserved, and see how units responded in terms of size in fixed capital and employment following de-reservation.

2.3 Beyond the Small/Large Framework

Protection to small enterprises was earlier encouraged assuming the fact that they produce gainful employment owing to the use of labour intensive technology. The present scenario of openness gives rise to two counteracting problems: a) Protection on its own cannot generate competitiveness and also cannot continue forever. This is true, even more, in the present context of WTO norms when the earlier forms of protections/restrictions are no longer feasible; b) It is more likely in the Indian scenario that lifting up of protections would help few exporting small enterprises to grow big but would lead to the closure of the vast majority of tiny units in the face of uneven competition to which they are exposed to both from home and abroad. In this context what seems to be important is the question of enhancing competitiveness which happens to be a cumulative process of capability building and does not depend only on the scale of operation. Efficiency does not necessarily increase with size. The rise in efficiency along with the scale of operation reaches a critical limit beyond which costs either remains same or even increases. Hence the issue is given the factor combinations what could be the appropriate scale by which one can maximize the

economic goals. Moreover in order to realize the economic goals, *viz*, maximizing employment or income policies need to be located in the specific context of the relevant market and the demand pattern we are talking about. Hence keeping in mind the changes in demand pattern and given the fact of increased exposure to global markets policies need to be beyond the restrictive framework based on size. Rather to address the issues of efficiency as well as social welfare captured through goals in creating employment emphasis need to be placed on promoting clusters of small enterprises where both horizontal and vertical subcontracting may take care of the dual problems of employment and flexibility. The government has started thinking in this line especially in the context of credit provisioning and preferential concessions, however, much need to be done in order to initiate organizational dynamism that goes beyond the traditional division of large and small and can help respond adequately with changing markets. In the present context policies depending on conventional tools of reservation/de-reservation and hence choosing between policies of exclusive protection and 'free market' would not be adequate. Policies and regulations need to be sensitive to the specifics of industries, the nature of competition and the problems faced thereupon and thus formulate policies in the specific context to build required capabilities for competitiveness.

Planning to encourage agglomeration economies is not new in the Indian context. The Third Plan Working group talked about small scale industries as a tool for regional industrial planning and came out with the proposal of industrial estate. An industrial estate was defined as a planned clustering of industrial enterprises offering standard factory buildings erected in advance with adequate provisioning of variety of services and facilities to the occupants. For an individual entrepreneur, the availability of a factory in the estate would result in the saving of a great deal of effort, time and expense in erecting a factory. The ready availability of infrastructure and location amidst other units in the estate can also help the unit through different types of linkages. Appreciating the significance of these advantages the government started this programme in the early fifties. A larger number of studies however suggest that in the same industry units located outside recorded better performance than the estate-located units. These evidences however call for a more nuanced understanding of industrial clusters those based upon the notion of cooperative efficiency and the

government has come up with an increased focus on cluster development programmes.

2.4 Industrial Clusters in India

According to the Third All India Census a district having 100 or more registered SSI units that were engaged in manufacturing the same product as per ASICC 2000 (at 5 digit) was considered as a cluster for that product in that district. Using this criterion, 1223 clusters covering 321 products were identified in the registered SSI sector. These clusters had a 32.68 per cent share in total number of registered units, 18.95 per cent in total market value of Fixed Assets, 16.99 per cent in total Gross Output and 27.66 per cent in total value of employment of manufacturing activity of the registered SSI sector. The details of these clusters are given in the Table 2.5.

Table 2.5
State-Wise Distribution of Clusters in the Registered SSI Sector by States

SNo.	*Name of State/ UT*	*Number of clusters*	*No. of Units*	*Fixed assets (in Rs)*	*Gross output (in Rs)*	*Employment*
1.	Jammu & Kashmir	13	2016	409513235	1006869384	5561
2.	Himachal Pradesh	20	4451	394851715	1097014031	8132
3.	Punjab	67	15568	20214275692	49438943264	88939
4.	Chandigarh	1	118	74390401	254287018	670
5.	Uttaranchal	17	3637	937879028	3496652716	7030
6.	Haryana	38	7468	10499149811	31777254404	52171
7.	Delhi	2	260	2039718822	6870454690	7350
8.	Rajasthan	38	6664	4470554642	10633246927	26454
9.	Uttar Pradesh	131	26910	10583481724	28492237797	100586
10.	Bihar	54	10114	592669243	1222371600	24480
11.	Manipur	4	554	34497616	96645172	2180
12.	Mizoram	1	135	23129543	35647918	559
13.	Meghalaya	1	113	24055730	159899723	479
14.	Assam	8	1613	210606980	450428459	6412
15.	West Bengal	36	6984	1583610749	3797829638	34109
16.	Jharkhand	15	2801	553868372	1468482317	11721
17.	Orissa	4	587	166242081	358379096	2405
18.	Chhattisgarh	24	5703	1434281032	1206977665	16039
19.	Madhya Pradesh	91	18372	688741276	1635410535	38442
20.	Gujarat	106	38828	22067972340	36246350226	195329
21.	Maharashtra	74	18254	25379951579	36291398998	117874
22.	Andhra Pradesh	71	13888	11247413419	28004557754	79905
23.	Karnataka	126	29624	9511609382	17975948743	121706
24.	Kerala	149	35615	10978802099	14113669216	146116
25.	Tamil Nadu	131	34741	23984461113	52441742637	303699
26.	Andaman & Nicobar Islands	1	132	14548547	47393256	498
Total		**1223**	**285150**	**158120276171**	**328620093184**	**1398846**

Source: Third All India Census for Small Scale industries

In the unregistered sector, each district having an estimated number of 500 or more unregistered SSI units which were engaged in manufacturing of a product as per ASICC 2000 (at 5 digit) was considered to form a cluster of that product in that district. Using this criterion, 819 clusters covering 250 products were identified in the unregistered SSI sector. The 819 clusters were identified in 25 States/ UTs. The State-wise details are given in Table 2.6.

Table 2.6
State-Wise Distribution of Clusters in Districts Having 500 or More Units (Estimated) Producing The Same Product/Service in Unregistered SSI Sector

SNo.	*Name of State/ UT*	*No. of Clusters*	*No. of Units*	*Fixed Assets (in Rs)*	*Gross Output (in Rs)*	*Employment*
1.	Jammu & Kashmir	13	8582	255641391	349263167	16801
2.	Himachal Pradesh	10	10963	366186009	264525740	12855
3.	Punjab	12	20431	2027795321	2105200315	34798
4.	Chandigarh	3	4050	562792000	2243326267	9612
5.	Haryana	2	1130	167685938	270167812	1637
6.	Delhi	10	7662	877529966	1570389293	26462
7.	Rajasthan	31	30263	972965362	1221224422	48756
8.	Uttar Pradesh	157	281356	18831160104	19181754177	763977
9.	Bihar	85	155213	6408937474	10334010093	349038
10.	Nagaland	3	3170	224653200	523326400	12734
11.	Manipur	13	18409	1409151163	1279721371	45347
12.	Meghalaya	3	4933	51023000	317785200	10336
13.	Assam	24	36683	1194789182	11347359147	90920
14.	West Bengal	62	101334	4217738858	17505718798	305903
15.	Jharkhand	21	50140	1025322117	1728173038	88306
16.	Orissa	57	139101	2148870484	4774781560	335197
17.	Chhattisgarh	18	17725	642475524	778563000	68290
18.	Madhya Pradesh	64	83374	1282528991	2279678876	151922
19.	Gujarat	9	17825	147178508	360094366	26999
20.	Maharashtra	42	51227	3474999082	3017629833	108154
21.	Andhra Pradesh	79	90174	6636171717	6575376326	225115
22.	Karnataka	55	54360	2698949830	2457206519	127806
23.	Kerala	17	35089	558418676	1256509206	64236
24.	Tamil Nadu	28	26499	1483231752	67180	1300494906
25.	Andaman & Nicobar Islands	1	514	13720000	28112280	1029
Total		**819**	**1250207**	**57679915649**	**93070392112**	**2993410**
Share in unregistered SSI sector			**37.85**	**22.45**	**21.04**	**34.63**

Source: Third All India Census for Small Scale industries

These clusters had a share of 37.85 per cent in total estimated number of unregistered units, 22.45 per cent in total estimated market value of fixed assets, 21.04 per cent in total estimated gross output and 34.63 per cent in total estimated value of employment of the manufacturing activity in the unregistered SSI sector. UNIDO has arrived at a conclusion based on a number of independent surveys and studies that in India there are around 6600 goods clusters. It is estimated that close to 6000 of these clusters are low-technology microenterprise clusters. Of the remaining clusters over 99 per cent

are traditional manufacturing cluster and the rest are high tech clusters involved in IT, biotechnology and so on. The distribution of clusters by region is shown in Table 2.7.

Table 2.7
Distribution of Clusters in India by Regions

Region	*Traditional Manufacturing*		*Micro enterprise*					
			Handicraft		*Handloom*		*Others*	
	No.	*%*	*No.*	*%*	*No.*	*%*	*No.*	*%*
North	123	31.7	716	25.75	140	23.56	698	24.11
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-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*, Foundation for MSME Clusters, 2007

Cluster Development Programme

Since 1998 UNIDO had conducted a number of cluster development programme primarily to develop those clusters such that those could in course of time be integrated to the global market. The outcome of these studies largely influenced government policies on cluster development. The Office of Development Commissioner (Small Scale Industries) issued an office memorandum on March, 2006 elaborating upon the guidelines of the Small Industries Cluster Development Programme (SICDP) which states in the introduction: 'The Ministry of Small Scale Industries (SSI), Government of India (GoI) has adopted the cluster approach as a key strategy for enhancing the productivity and competitiveness as well as capacity building of small enterprises (including small scale industries and small scale service and business entities) and their collectives in the country. Among other things, this approach also facilitates substantial economies of scale in terms of deployment of available resources for effective implementation and more sustainable results in the medium to long term.'

The agency through which the cluster development programme as suggested by the government would be special purpose vehicles (SPV), consisting of the actual/likely cluster beneficiaries/enterprises organised in any legally recognised form like a cooperative society, registered society, trust, company, etc. At the initial stage some government agency may play the role of SPV and plan for the development of the cluster. The primary task is to identify clusters those happen to be important in terms of number of units, employment, production, exports and identify the critical gaps in

technology, product quality, common facilities, skill upgradation, availability of raw material, marketing support and so on. The general structure of the project includes two phases: one comprises of soft interventions that is those related to capacity building activities in the cluster where no fixed asset is acquired or formed and the other is the hard intervention which involves fixed investments on various types of common facilities centre (CFCs). According to the various operations and mode of management the government categorized the following three kinds of CFCs:

a. **Developmental (DV):** The CFCs aimed to provide advanced technology, undertake R&D, new forms of training or a common testing/standardisation facility and so on, are the ones for which private sector is less likely to invest on its own, due to perceptions of higher financial risks and/or longer gestation period for gains. Such CFCs need substantive long term public support. Testing facilities, Design centres, research and development centres and training centres those provide indivisible public goods to all units in the cluster come under this group.
b. **Quasi Developmental (QD):** The common facilities that do not necessarily demonstrate commercial viability in the short to medium term (less than 3 years) and distribution of gains to individual firms is not clearly established, e.g., common effluent treatment plant, information centre/sub-contracting exchange, common logistics centre may fall in this category.
c. **Commercial (CL):** The common facilities that are likely to lead to clear commercial gains for the enterprises in the cluster within up to two years of the CFC becoming operational, e.g., common production centre, common marketing facility, common raw material depot that procures raw material and/or sells common finished products will fall in this category.

The clusters are chosen by the respective department of the state governments and proposals are prepared by the assigned agencies. The soft interventions are primarily aimed to develop the formative principle that is the realization of the need for cooperation at a certain level. This is a process of building trust among small units and also to facilitate predictable transactions within themselves. Given the existing infrastructures and institutions the nodal agency should identify what sort of negotiations, interactions and networks could develop the performance of the cluster. The hard interventions are basically additions to facilities and infrastructures. The idea

is that in the initial stage government would invest in building such infrastructure and for some time continue to invest in running those common facilities, but in due course of time they would be either fully or partly commercially managed depending on the kind of facilities provided. Total number of 438 clusters had been chosen by MSME department of the state governments and of GOI for cluster development programme (Table 2.8).

Table 2.8
Distribution of Clusters Identified for Development under MSME-CDP

State	*Number*	*State*	*Number*
Andhra Pradesh	27	Maharashtra	25
Arunachal Pradesh	2	Madhya Pradesh	4
Assam	7	Manipur	3
Bihar	7	Mizoram	3
Chandigarh	2	Meghalaya	2
Delhi	5	Nagaland	2
Goa	3	Orissa	26
Gujrat	6	Punjab	18
Haryana	5	Rajasthan	30
Himachal Pradesh	3	Tamil Nadu	36
Jammu and Kashmir	3	Tripura	3
Jharkhand	5	Uttar Pradesh	115
Karnataka	12	Uttaranchal	4
Kerala	38	West Bengal	42

Source: Computed from laghu-udyog.com, Development Commissioner, Ministry of Micro, Small and Medium Enterprises.

Despite the fact that of late the governments in India understood the importance of looking into industrial clusters instead of addressing issues related to isolated units categorized by scales, nevertheless the focus has been little to these clusters relative to the comprehensive package on small scale industries as a whole. Provisioning of public facilities including credit need to be prioritized for those who belong to clusters and facilities need to be enhanced on the basis of some achievements in collective parameters besides conventional ones. In the following chapters we would focus on specific clusters the growth and dynamics of those would provide greater insight to the policy perspective required to integrate the cluster development programme with the broader goals of inclusive development.

chapter **3**

Garment and Footwear Industry: An Overview

3.1 Garment Industry

Garment industry worldwide is undergoing significant restructuring since the final phase-out of the Multi-fibre Arrangement (MFA) on January 1, 2005. The changes are taking place in terms of relocating production sites on the one hand and coping with the new competition on the other. Although it was predicted that abolition of quota regime would favour developing countries having low labour costs and large production capacities against smaller countries and those having relatively higher labour costs, nevertheless outcomes did not conform to what was predicted. Indeed productive capacities and exports increased to a large extent in countries such as India and China but it could not be explained only by relative costs of production. The production and distribution of garments has got increasingly linked in a global production chain and developing countries are increasingly getting the opportunity to participate in the labour intensive portion of the production process. The world apparel market was worth 345 billion US$ in 2007 and during the last decade the market grew at an average of 8 per cent per annum. India ranks sixth after China, EU, Hong Kong, Turkey and Bangladesh in terms of value of exports. Textile & apparel sector in India accounts for 14 per cent of total industrial production and employs around 60 lakhs people directly or indirectly. According to the Survey of Household Consumption levels in India, the per capita consumption of textiles for the year 2007 was 22.41 meters, a growth of 4.28 per cent. Average spending on textiles and clothing increased by 6.99 per cent. It is estimated that in value terms, the size of the Indian textile market was Rs. 1692952 million in 2007 recording a growth of 8.81 per cent. According to an estimate made by AEPC the CAGR for the period 2008 to 2015 is expected to be at least 10 per cent. This implies that the size of the domestic market would be worth around Rs 3650000 million and it is estimated that 55 per cent of this

is apparel and the rest is textiles. Given that presumption domestic apparel market would be worth Rs 2007500 million in 2015.

There had been a decline in the production of garments in developed countries primarily because of the relocation of production sites to low wage countries. As a result world import of garments is mostly concentrated in developed countries. The US alone accounts for 27.22 per cent of the world imports in the year 2007 of readymade garments followed by Germany, UK, Japan, France, Hong Kong, Italy and Belgium.

Table 3.1
World Imports of RMG and Percentage Share of Top Twenty-five Countries in World Imports (value in Billion US Dollars)

	2003	*2004*	*2005*	*2006*	*2007*	*Share in World Imports 2007*	*Growth 2006/ 2005*	*Growth 2007/2006*
World	228.46	254.91	271.99	293.04	277.6	100	7.74	-5.27
USA	65.73	69.96	74.15	76.88	75.56	27.22	3.68	-1.71
Germany	20.96	22.82	23.81	25.75	28	10.09	8.15	8.76
UK	16.5	19.03	20.08	21.23	23.72	8.54	5.74	11.7
Japan	18.38	20.46	21.17	22.43	22.6	8.14	5.96	0.75
France	14	15.91	16.72	17.58	19.86	7.16	5.14	12.99
Hong Kong	14.96	15.97	17.25	17.73	18.14	6.53	2.75	2.29
Italy	8.79	10.68	11.6	13.28	14.88	5.36	14.46	12.1
Belgium	5.96	6.67	7.35	7.75	8.6	3.1	5.43	10.98
Netherlands	5.42	5.97	5.89	6.71	7.07	2.55	13.84	5.29
Canada	4.02	4.68	5.37	6.15	6.9	2.49	14.39	12.22
Austria	3.32	3.74	3.97	4.2	4.87	1.75	5.86	15.87
Switzerland	3.71	4.07	4.14	4.3	4.79	1.73	3.89	11.37
South Korea	2.41	2.59	2.72	3.49	4.08	1.47	28.47	16.93
Australia	1.99	2.42	2.84	3	3.38	1.22	5.66	12.59
Sweden	2.32	2.52	2.63	2.8	3.23	1.16	6.29	15.4
Russian Fed.	0.48	0.63	0.8	1.5	2.84	1.02	86.45	89.92
Greece	1.16	1.45	1.65	1.87	2.68	0.97	13.26	43.74
Ireland	1.39	1.55	1.83	1.98	2.38	0.86	8.29	20.04
Singapore	2.03	2.16	2.05	2.41	2.35	0.85	17.89	-2.75
Mexico	2.89	2.42	2.32	2.35	2.29	0.83	1.27	-2.44
Norway	1.43	1.58	1.71	1.83	2.13	0.77	6.96	16.52
China	1.34	1.43	1.51	1.59	1.81	0.65	4.97	14.3
Finland	1.02	1.18	1.25	1.38	1.55	0.56	9.72	12.67
Czech Republic	0.57	1	1.27	1.2	1.44	0.52	-5.32	19.84
Turkey	0.37	0.58	0.69	0.67	1.05	0.38	-1.98	56.59

Source: AEPC

Table 3.1 shows the value of imports of readymade garments over the years as well as the share in world imports. It also shows that there has been a decline in the world import of garments since 2007 and primarily because of decline in imports from US.

More than 75 per cent of world readymade garments market accounts for USA, Germany, UK, Japan, France, Hong Kong, Italy and Belgium. As regards export from India USA accounts for 30.54 per cent of the total garments and in the case for knitwear and woven garments the share of USA is 29.84 and 31.07 respectively (Table 3.2). In the case of India the other major destination of exports are UK, Germany, France, UAE, Italy, Netherlands, Spain, Canada, Saudi Arabia, Denmark, Belgium and Japan.

Share of apparel in India's total export basket has also recorded steep decline during this decade. It has declined from 12 per cent share in 2001-02, to 6 per cent in 2007-08.

Table 3.2
Trends and Composition of India's Export of RMG in 2007 and 2008
(in million US$)

	% Share in Different Types of RMG Exports in 2007			*RMG Exports (in mn US$)*		*Knit-apparel Exports (in mn US$)*		*Woven-apprel Exports*	
	All	*Knit apparel*	*Woven Apparel*	*Sept 2007*	*Sept 2008*	*Sept 2007*	*Sept 2008*	*Sept 2007*	*Exports Sept 2008*
-- World --	100	100	100	700.83	706.54	319.46	315.52	381.37	391.03
USA	30.54	29.84	31.07	207.52	197.68	101.78	97.16	105.74	100.52
UK	12	10.78	12.95	97.82	77.64	48.3	32.67	49.52	44.97
Germany	8.31	11.05	6.22	56.88	51.01	36.62	29.78	20.26	21.22
France	7.26	8.27	6.48	29.22	32.91	16.07	17.34	13.15	15.57
UAE	6.79	5.69	7.63	62.05	82.98	19.21	30.49	42.84	52.49
Italy	4.59	6.06	3.46	20.07	19.64	11.53	13.04	8.53	6.6
Netherlands	3.67	3.6	3.72	20.63	28.11	7.68	12.01	12.95	16.1
Spain	3.62	3.45	3.75	20.83	23.19	10.23	9.69	10.6	13.5
Canada	2.74	3.57	2.11	18.49	18.43	12.04	11.14	6.45	7.28
SaudArabia	2.27	1.32	2.99	27.35	22	5.45	6.16	21.91	15.84
Denmark	2.15	2.07	2.21	14.35	13.7	6.27	4.68	8.08	9.02
Belgium	1.91	1.7	2.08	8.02	10.7	3.2	5.32	4.82	5.38
Japan	1.1	0.25	1.75	6.89	6.68	0.36	0.46	6.54	6.22
Sweden	0.83	0.78	0.86	5.53	6.27	2.38	2.14	3.15	4.12
Russia	0.73	1.45	0.18	3.24	1.98	2.84	1.81	0.4	0.16
Mexico	0.72	0.79	0.68	3.58	3.79	2.01	1.67	1.57	2.12
SouthAfrica	0.66	0.74	0.59	7.75	9.36	3.33	5.26	4.41	4.1
Ireland	0.61	0.98	0.33	5.24	2.35	4.48	1.81	0.76	0.54
Singapore	0.57	0.48	0.64	3.76	4.75	1.23	2.15	2.53	2.6
Switzerland	0.55	0.99	0.22	2.83	2.5	2.28	2.1	0.55	0.40

Source: AEPC

India's exports of RMG accounted for US$7853.85 million for the period January – September 2008 with an increase of 10.72 per cent compared to the same period in previous year. During the month of September 2008, RMG exports accounted for US$706.54 million with a slight increase of 0.82 per cent for the same month of

previous year. During this period USA, UK, Germany, France and UAE were the top 5 destination countries accounting for more than 65 per cent share of the India's exports. For the same period exports to UAE increased by 50.32 per cent while exports to USA declined by 3.27 per cent. Sweden and Spain is emerging as a new market for Indian exporters.

During the same reference period exports to Sweden and Spain grew by 37.85 per cent and 36.46 per cent respectively. India's exports of knit apparel during the period January – September 2008 accounted for US$3224.42 million with an increase of 7.41 per cent over the same period of previous year. India's exports during September'08 accounted for US$315.52 million with a decrease of 1.23 per cent for the same period of previous year. USA, UK, Germany, France and UAE were the top 5 destination countries for the period January – September'08, with total exports of US$2065 million, accounting for the 64 per cent share of the India's exports to world.

Table 3.3 shows the share in US imports of thirty selected countries. China records the highest share of 32.03 per cent followed by Vietnam, Indonesia, Mexico and Bangladesh. The share of India in US imports accounts for 4.3 per cent. During the period 2007/08 and 2008/09 there had been a decline in US imports of apparel showing a percentage change of -6.97 and -3.18 respectively. Despite the fact that there had been global recession during this period China Vietnam and Bangladesh registered a positive growth in their amounts to US imports, while India, Mexico and Indonesia marked a decline in exports to US.

Table 3.4 shows the trends in imports of US for about 25 categories of cotton garments sourced from India. Of these 25 categories 14 shows a positive growth during the period 2008 and 2009 while import of the rest 11 categories declined during the same period. The largest decline being in the case of Cotton Sweater (345) and the highest increase in imports happened to be in the case of Cotton Skirts (342). As shown in the figure of year ending 7/2009 the following items records a larger share: Cotton Dresses (336); W/G N-Knit Blouse (341); Cotton Skirts (342); Pillowcase (360); Cotton Sheets (361); Pile Towels (363) and Other Cotton Manufactures (369).

A comparison of the present product coverage of India and China in USA shows that of the 104 apparel items imported by USA, China has presence in 102 items, i.e. 98 per cent of the import basket of USA, while India supplies around 66 items, i.e. 63 per cent of the market. Moreover, 80 per cent of India's exports come from 12 of the MFA categories while the larger share of China's exports come from 34 of the MFA categories.

Table 3.3
Import of Apparel by US from Thirty Selected Countries (in US$)

	2007	*2008*	*% Share in US Import '08*	*Year ending 2008*	*Year Ending 2009*	*% Change in 2007/08*	*% Change in 2008/09*
World	73922587219	71568371283	100	72533656790	67479768660	-6.97	-3.18
China	22745017782	22922614903	32.029	22161372579	23274583861	5.02	0.78
Vietnam	4358517612	5223491293	7.299	4830585348	5221581603	8.09	19.85
Indonesia	3981073422	4028415851	5.629	3996987609	3954892908	-1.05	1.19
Mexico	4523374887	4014500219	5.609	4262287608	3635846346	-14.70	- 11.25
Bangladesh	3103345687	3441642469	4.809	3205684990	3559340562	11.03	10.90
India	3169929897	3073344114	4.294	3133604573	2922901070	-6.72	-3.05
Honduras	2511006283	2604027979	3.639	2546864245	2340285279	-8.11	3.70
Thailand	1766311268	1667807323	2.330	1751321869	1446907377	-17.38	-5.58
Pakistan	1498582203	1489561481	2.081	1496528236	1399037141	-6.51	-0.60
El Salvador	1486101260	1533577513	2.143	1542070286	1395681078	-9.49	3.19
Sri Lanka	1573361305	1466983640	2.050	1490770309	1373779921	-7.85	-6.76
Guatemala	1450581946	1388159184	1.940	1442590709	1181543350	-18.10	-4.30
Philippines	1722220827	1362328550	1.904	1576735698	1181172819	-25.09	-20.90
Italy	1437197243	1333238453	1.863	1449957034	1101920389	-24.00	-7.23
Hong Kong	2034777304	1552996500	2.170	1990031645	975069768	-51.00	-23.68
Jordan	1145398256	971258424	1.357	1062223225	878733985	-17.27	-15.20
Nicaragua	967779811	934055225	1.305	979145962	869411325	-11.21	-3.48
Egypt	697298981	742054735	1.037	691489679	766811125	10.89	6.42
Dominican Republic	1056516449	840552163	1.174	913231874	722219549	-20.92	-20.44
Peru	813964054	793851047	1.109	841282211	666618516	-20.76	-2.47
Taiwan	861478277	721148653	1.008	804507621	625300531	-22.28	-16.29
Canada	960415291	698861324	0.976	840770099	552801576	-34.25	-27.23
Malaysia	682777768	638641271	0.892	670945749	552677350	-17.63	-6.46
Macau	1027709685	838144850	1.171	1016397123	490355546	-51.76	-18.45
Haiti	452196495	412323852	0.576	410488108	470357680	14.58	-8.82
Korea, South	627024297	505488163	0.706	555236876	401075158	-27.77	-19.38
Turkey	559175652	402027469	0.562	471595172	325664749	-30.94	-28.10
Lesotho	383525513	339690343	0.475	350243168	306743681	-12.42	-11.43
Colombia	382128850	341932904	0.478	362994509	273673741	-24.61	-10.52

Source: International Trade Administration, Department of Commerce, US

It has been found that 38 categories comprising of 37 per cent of the US market is still to be tapped by India. The performance of India in the US market is a good indicator of the lag that India has in catering to the fastest growing categories of garments.

The share of China in the US imports basket increased over the years and this is sometimes explained by the low relative wage in China. But this argument is only partial and ignores the fact that besides low wages China has increased capacities over

the years by huge investments in technology, not only increased the scale of operation but the scale increased along with increased flexibility in production organization. China at the moment is no more confined in the low end of the market rather offers a large portfolio of garments that suits to different segments of the multilayerd garments market.

Table 3.4
Trends in US Imports of Various Categories of Cotton Apparel from India (in million US$)

	Calender years		*Year-to-date*		*%Change*	*Year Endings*				*% Change*	*YE 7/ 2009 % Share*
	2007	*2008*	*Jul-08*	*Jul-09*		*Jul-08*	*May-09*	*Jun-09*	*Jul-09*		
330	0.322	0.235	0.127	0.142	11.61	0.176	0.287	0.265	0.25	42.23	2.98
331	1.311	0.593	0.384	0.526	37.22	0.792	0.664	0.663	0.736	-7.11	0.76
332	4.848	1.785	1.043	1.204	15.45	3.368	1.874	1.957	1.946	-42.24	0.29
333	0.616	0.605	0.248	0.288	16.1	0.498	0.64	0.626	0.645	29.56	4.96
334	10.07	8.326	3.084	3.64	18.04	10.322	8.953	8.702	8.882	-13.95	2.52
335	20.672	18.802	10.622	9.25	-12.91	19.646	17.546	16.953	17.431	-11.27	3.09
336	77.512	84.385	68.631	84.731	23.46	80.302	92.556	96.664	100.485	25.14	16.44
338	72.201	68.511	43.094	37.399	-13.22	70.848	63.729	63.332	62.815	-11.34	6.07
339	54.404	54.746	33.413	35.904	7.45	51.256	56.826	56.765	57.237	11.67	4.38
340	58.407	52.42	30.799	23.456	-23.84	56.315	46.105	45.835	45.077	-19.95	7.9
341	66.539	54.884	42.93	38.795	-9.63	59.034	50.07	50.589	50.749	-14.03	17.64
342	24.144	17.01	13.966	21.584	54.55	16.313	23.117	24.6	24.629	50.98	16.41
345	3.701	1.23	0.572	0.588	2.77	2.701	1.231	1.193	1.246	-53.86	0.42
347	41.348	39.489	30.211	21.597	-28.51	42.704	32.503	31.228	30.875	-27.7	2.95
348	54.212	66.795	49.912	39.539	-20.78	67.763	57.696	56.279	56.422	-16.74	3.69
349	0.031	0.026	0.015	0.007	-53.19	0.019	0.013	0.015	0.018	-6.12	0.06
350	49.039	21.656	11.401	20.02	75.6	28.983	28.544	31.031	30.275	4.46	9.01
351	53.409	60.767	38.721	32.021	-17.3	61.048	58.287	56.02	54.067	-11.44	6.44
352	109.469	161.872	80.785	97.476	20.66	130.889	177.664	176.94	178.563	36.42	9.35
359	13.637	17.172	11.29	11.921	5.59	15.088	17.979	17.659	17.803	18	4.91
360	28.055	36.918	20.463	19.692	-3.76	33.627	35.679	35.937	36.148	7.5	18.1
361	145.931	176.214	95.697	92.702	-3.13	160.313	172.545	173.382	173.219	8.05	13.9
362	17.311	15.349	8.755	9.606	9.72	16.028	15.507	15.62	16.2	1.07	5.05
363	67.252	69.585	41.311	38.835	-5.99	71.495	66.065	66.241	67.109	-6.13	25.13
369	606.401	561.115	312.932	316.406	1.11	575.019	557.466	563.964	564.589	-1.81	21.52

Source: International Trade Administration, Department of Commerce, US

Table 3.5 shows the trends and composition of China's exports of readymade garments. In the year 2008 China's exports amounted to 113020.55 million US$ and compared to the previous year it grew by 3.99 per cent. If we compare January figures in both 2008 and 2009 the growth of exports was around 5.68 per cent. By destination the highest share of China's exports goes to Japan accounting 15 per cent followed by USA, Hong Kong, Germany and Russia accounting 14.5, 6.48, 5.21 and 4.7 respectively. China's export of knit apparel in year 2008 accounted for 60590.10 million US$ with a decrease of 1.23 per cent over the previous year and that of woven

apparel account for 52430.45 million US$ with an increase of 10.76 per cent over the previous year.

Table 3.5
Trends and Composition in China's Exports of RMG during the Period 2007 to 2009

Destination Country	*Export of RMG*		*% Change 2008/2007*			*Export of RMG*		*% Change 2009/08*
	2007	*2008*	*All*	*Knit-Apprel*	*Woven-Apparel*	*January 2008*	*January 2009*	
--World--	108681.32	113020.55	3.99	-1.23	10.76	9430.31	9966.39	5.68
Japan	15930.83	17031.84	6.91	9.68	4.21	1310.82	1608.20	22.69
USA	16724.08	16392.96	-1.98	-6.87	2.33	1274.66	1573.45	23.44
Hong Kong	8915.42	7330.38	-17.78	-15.75	-20.47	699.82	595.81	-14.86
Germany	4373.39	5899.54	34.9	57.27	21.37	601.66	620.58	3.14
Russia	8427.15	5313.84	-36.94	-44	-11.63	409.32	346.59	-15.33
Kyrgyzstan	1461.9	4982.56	240.83	191.97	429.28	201.27	251.09	24.75
UK	3243.6	4917.37	51.6	73.62	38.45	392.38	399.76	1.88
France	2292.38	3284.73	43.29	58.08	33.61	279.96	299.81	7.09
Korea, South	3266.51	3238.96	-0.84	3.34	-4.41	307.20	209.73	-31.73
Italy	2363.73	3209.97	35.8	54.37	23.7	311.37	347.87	11.72
Kazakhstan	2061.45	2994.47	45.26	25.07	146.6	207.92	139.74	-32.79
Canada	3627.98	2716.77	-25.12	-39.24	-4.38	245.61	281.34	14.55
Netherlands	1451.3	2703.37	86.27	101.1	75.95	225.15	275.43	22.33
Spain	1728.15	2678.22	54.98	85.51	35.24	229.99	269.84	17.33
Australia	2052.19	2346.27	14.33	13.42	15.46	248.31	283.33	14.10
UAE	2461.94	2220.27	-9.82	-19.16	16.18	179.40	195.54	9.00
Saudi Arabia	1588.62	1565.98	-1.43	-5.94	9.96	108.51	103.36	-4.75
Panama	2049.9	1550.91	-24.34	-30.43	-13.8	131.32	135.96	3.53
Singapore	3094.76	1415.36	-54.27	-57.66	-41.22	156.57	57.41	-63.33
Belgium	844.73	1324.56	56.8	53.34	60.44	104.89	110.75	5.59

Source: AEPC

Although most of the garment producer sells products through buying agents but some also fix direct relation to reputed brands and their retail chains. In any case be it sold directly or indirectly US market is under stress and that indeed has affected exporters from developing countries in general and specifically India. Table 3.6 shows that a large number of retail stores had been closed during the recession. These include almost all reputed brands such as Philips- Van Heusen, Charming Shoppes, Ann Taylor, Talbots, Macy's and so on. According to the estimated job cuts in these stores Goody's family Clothing would account for the highest number of closures amounting to 287 stores with job cuts around 9000 people. Since there had been a relocation of production sites for garments from developed to developing countries over the years and because the major share of exports from developing countries are

destined to advanced countries, a slowdown in developed countries obviously affects the exporters in the developing countries badly.

Table 3.6
List of US Stores Affected by Downturn

Company Name	*No of Stores Closed/Planned to be Shut Down in Coming Months*	*Job Cuts (Approx.)*
Reebok	NA	300
Philips - Van Heusen	175	400
Charming Shoppes	150	NA
Eddie Bauer	29	193
Timberland	40	NA
Ann Taylor	117	NA
Lane Bryant, Catherine Bug and Fashion	150	NA
Goody's Family Clothing	287	9000
Talbots	78	800
Macy's	NA	7000
O C Clothing Retailer	NA	41
Quicksilver	25	NA
Chico's	25	180
Tandy Brands	NA	114
Neiman Marcus Group	NA	375
The Home Depot	15	1300
Sprint Nextel	125	4000
Zales, Piercing Pagoda	105	NA
Goodbye Levitz	76	NA

Source: Garments-online

Table 3.7 shows the trends in imports of readymade garments from EU. During the year 2008, EU's import of RMG accounted for 109.82 billion Euros with an increase of 1.26 per cent from the previous year. In 2008 China, Bangladesh, India, Indonesia and Sri Lanka were the top five apparel supplier countries to EU. However the share varied to a large extent *viz*. China accounting for the largest share 22.97 per cent followed by India with a share of 3.55 per cent. During the period 2008/09 in EU's import of garments China, Bangladesh and Mexico recorded high growth rate of 36.33, 8.74 and 9.39 per cent respectively. On the other hand India and Indonesia saw a decline of 0.49 per cent and 4.06 per cent respectively. In knit apparel exports, China, Bangladesh and India the top 3 supplier countries to EU amounted to 1.72 billion Euros (cumulative) in January, 2009. India's share in EU's import of woven apparel accounted for 3.46 per cent and China still accounting number one with the share of 24.72 per cent for the year 2008.

Besides decline in US and EU market Indian exporters of garments also had to suffer in Japanese market. During the period 2007-08 there has been a decline in exports in

the case of eight out of fourteen items. There had been steep fall in the case of ladies skirts, suits and ensembles and undergarments. Table 3.8 shows the impact of slowdown on 13 listed garment companies during the period 2007/08. All the companies had an increase in their sales turnover as compared to the same quarter of the preceeding fiscal year except Gangotry Textiles. As recorded there was a 40 per cent average increase in the sales turnover whereas there is a huge decline in terms of operating profit and net profit during the same period.

Table 3.7
Import of RMG from European Union
during the Period 2007 to 2009 (in million Euro)

Partner/ Period	*Total Imports 2007*	*Total Imports 2008*	*% Share Year 2008*	*% Change in Imports 2008/ 2007*	*Jan. 2008*	*Jan. 2009*	*% Change Jan 2009/ Jan 2008*
EU Total	108452.39	109819.69	100	1.26	9768.88	10127.05	3.67
EU27 Extra	58035.93	59320.98	54.02	2.21	5487.07	5890.94	7.36
EU27 Intra	50416.46	50498.71	45.98	0.16	4281.81	4236.11	-1.07
Bangladesh	4404.46	4728.53	4.31	7.36	408.99	444.75	8.74
Canada	67.49	58.21	0.05	-13.76	4.83	3.79	-21.53
China	21859.96	25226.6	22.97	15.4	2131.95	2906.46	36.33
Egypt	417.91	476.42	0.43	14	43.93	45.77	4.19
Hong Kong	1684.44	853.74	0.78	-49.32	173.25	60.48	-65.09
Indonesia	1195.55	1122.31	1.02	-6.13	108.27	103.87	-4.06
India	3833.11	3895.22	3.55	1.62	375.67	373.84	-0.49
South Korea	257.98	142.23	0.13	-44.87	24.57	9.73	-60.40
Sri Lanka	1042.32	1123.93	1.02	7.83	96.7	98.23	1.58
Mexico	57.73	58.73	0.05	1.74	5.11	5.59	9.39
Malaysia	235.11	197.03	0.18	-16.2	22.54	16.12	-28.48
New Zealand	3.51	2.53	0	-27.86	0.07	0.16	128.57
Philippines	190.64	144.67	0.13	-24.11	17.27	12.51	-27.56
Pakistan	908.52	879.84	0.8	-3.16	76.89	79.19	2.99
Singapore	18.72	10.95	0.01	-41.48	0.97	0.85	-12.37
Thailand	798.71	787.73	0.72	-1.37	74.88	70.97	-5.22
United States	362.21	376	0.34	3.81	29.9	29.13	-2.58

Source: AEPC

Operating profit of the companies declined by an average of 61 per cent on the other hand net profit recorded a sharp average decline of 227 per cent as compared to same quarter of the previous year. The relatively higher decline in net profit compared to operating profit might be because of the fact that these companies might be investing in speculative assets especially in real estates those experienced a sharp downfall. The sales turnover increased significantly in the case of Bombay Dyeing and Anjani Fabrics. Operating profit for Pearl global declined by 584.06 per cent and that in the case of Raymond declined by 135.37 per cent.

The highest decline in net profit had been in the case of Raymond followed by Bombay Dyeing, Aarvee Denims and Exports Ltd. and Pearl Global.

Table 3.8
Sales Turnover, Operating Profit and Net Profit of Some listed Companies during the Period 2007/ 2008 (in Rs. Crore)

Company Name	*Sales Turnover*		*% Change*	*Operating Profit*		*% Change*	*Net Profit*		*% Change*
	30-Jun-08	*30-Jun-07*	*2008/ 2007*	*30-Jun-08*	*30-Jun-07*	*2008/ 2007*	*30-Jun-08*	*30-Jun-07*	*2008/ 2007*
Aarvee Denims & Exports Ltd	66.48	49.6	34.05	4.68	10.51	-55.53	-4.11	3.04	-235.19
Aditya Birla Nuvo	1078.93	740.96	45.61	149.29	105.83	41.07	41.64	26.46	57.37
Anjani Fabrics	43.85	20.05	118.77	2.51	1.73	44.77	0.71	0.52	35.89
Bombay Rayon Fashions	275.07	201.25	36.68	64.74	43.54	48.67	34.93	22.05	58.41
Bombay Dyeing	314.99	126.18	149.64	-3.57	34.33	-110.4	-48.34	17.88	-370.36
Century Textiles	951.79	836.84	13.74	149.13	225.35	-33.82	62.5	107.91	-42.08
Gangotri Textiles	38.17	40.98	-6.87	7.94	6.69	18.57	-7.97	0.59	-1448.9
Gokaldas Exports	291.24	261.89	11.2	29.99	25.96	15.52	11.05	10.53	5.01
Pearl Global	86.32	71.97	19.94	7.65	-1.58	-584.06	2.99	-3.28	-191.16
Provogue (India)	67.78	51.7	31.11	12.51	10.57	18.36	6.05	4.74	27.67
Raymond	235.72	209.13	12.71	-11.57	32.71	-135.37	-41.6	5.37	-874.67
Vardhman Textiles	566.16	527.55	7.32	89.39	95.59	-6.49	109.68	31.05	253.24
Aarvee Denims & Exports Ltd	66.48	49.6	34.05	4.68	10.51	-55.53	-4.11	3.04	-235.19

Source: BSE

3.2 Footwear Industry

Leather industry in India occupies a place of prominence because of its substantial contribution in export earnings, employment and growth. Hides and skins are the basic raw materials for the leather industry, which originate from the source of livestock. Developing countries accounted for around 78 per cent of the total population of bovine animals and 93 per cent of world population of goats and kids in 2005. India had the largest number of bovine animals (283 million heads) with a share of 19 per cent followed by Brazil (13%), China (9%) and USA (6%). As a result India assumes a natural candidate for higher output and exports of leather and leather related goods. The export of leather and leather products increased manifold over the past decades. The major importers of leather articles are USA, Spain, UK and Belgium while China,

Mexico, Turkey and Romania are major importers of raw hides and skins. On the other hand Hong Kong, USA and Italy are chief importers of furskins. China, Hong Kong, Italy, USA and France are major exporters of leather in the world. China constitutes 34 per cent of the total leather articles exports followed by Hong Kong (17%), Italy (11%) and France (9%) who are the other major exporters.

Exports of leather from India increased manifold over the years. The export increased from Rs. 290 mn in 1956-57 and from Rs. 30760 mn in 1991-92 to Rs. 140007.33 mn in 2007-08. Today the industry ranks eighth in the export trade in terms of foreign exchange earnings. The composition of export of leather and leather products from India has undergone a structural change during the last three decades, from merely an exporter of raw material in the sixties to that of value added products in the nineties. The value added finished products presently constitute around 80 per cent of the total export from the Industry, which was mere 7 per cent in 1956-57. India accounts for a share of 2.62 per cent in the global leather trade during 2006. With the exclusion of non-leather footwear, this is slightly higher at 3.41 per cent.

Footwear is the most dynamic component of the leather industry, currently accounting for an export value of US$1212 million. According to the Council for Leather Exports there are around 26 clusters of small enterprises producing leather and leather related products spread across 11 states in India. Footwear and components account for the highest share, 42.44 per cent of total export basket related to leather and India is the second largest footwear producer after China constituting 14 per cent of global footwear output. The Indian footwear industry provides employment opportunities to a total of 1.1 million people, mostly from the weaker sections of the society. Out of this, about 0.2 million employed in the organized sector, 40 per cent are women and the remaining 0.9 million people are engaged in unorganized footwear sector like rural artisans, cottage and household units etc. The European Union and the USA are the major markets for Indian Footwear accounting for 79.95 per cent and 9.22 per cent share respectively in India's total footwear export. The major markets for Indian footwear are Germany accounting for 16.66 per cent, UK 16.31 per cent, Italy 15.32 per cent USA 9.22 per cent, France 7.81 per cent, Spain 5.10 per cent, Netherlands 4.91 per cent, Portugal 2.50 per cent, UAE 2.48 per cent and Denmark 1.18 per cent. These 10 countries together accounts for nearly 81.49 per cent of India's total leather

products export. Many of the foreign brands such as Acme, Clarks, ColeHann, Deichmann, Ecco, Elefanten, Florsheim, Gabor, Hasley, Hush Puppies, Double H, Justin, Marks & Spencer, Nautica, Nike, Nunn Bush, Reebok, Salamander, Stacy Adams, Tony, Lama, Next, Bally are sourced from India.

Table 3.9 shows that the share of India in global imports of leather over the years. The share of India increased from 2.25 per cent in 2002 to 2.62 in 2006. In the case of finished leather the share increased from 3.08 in 2002 to 3.49 in 2006 and during the same period the share of India increased marginally in footwear and declined in the case of leather goods from 5.3 per cent to 5.16. The most significant rise happened to be in the case of leather garments where the share in global imports increased from 6.43 per cent in 2002 to 8.29 per cent in 2006. Table 3.10 shows the export trends of leather and leather products over the years and Table 3.11 shows the growth of exports of major exporting countries during the period 2002 to 2006. Countries recorded high growths are Netherlands (112.43 per cent); India (97.28 per cent) and China (96.75 per cent).

Table 3.9
Export of Footwear and Leather Related Goods from India in Various Years (in million US$)

Year/ Trade	*2002*	*2003*	*2004*	*2005*	*2006*
All leather and leather Products					
Global Import	83258.79	91064.03	100206.25	108050.16	116550.80
India's Export	1875.21	2216.45	2495.37	2752.50	3059.43
% Share of India	2.25	2.43	2.49	2.55	2.62
Finished Leather					
Global Import	16506.14	18074.64	19812.96	19879.89	20738.51
India's Export	508.83	555.71	607.73	636.27	724.00
% Share of India	3.08	3.07	3.07	3.20	3.49
Footwear					
Global Import	49262.51	54064.67	59658.13	66308.61	72386.57
India's Export	625.25	767.73	910.77	1045.24	1236.91
% Share of India	1.27	1.42	1.53	1.58	1.71
Leather Garments					
Global Import	4232.43	4192.43	4004.83	3818.44	3739.77
India's Export	272.08	301.08	329.44	333.30	309.91
% Share of India	6.43	7.18	8.23	8.73	8.29
Leather Goods inc. Gloves					
Global Import	8020.61	9021.89	10773.01	12136.25	13675.50
India's Export	425.40	539.21	585.72	660.17	706.28
% Share of India	5.30	5.98	5.44	5.44	5.16

Source: Computed from 'Facts and Figures- 2007-08', Council for Leather Exports India

Table 3.10
Value of Leather and Leather Products Exported from India (in US dollars)

Code	*Product label*	*Exported value in 2004*	*Exported value in 2005*	*Exported value in 2006*	*Exported value in 2007*	*Exported value in 2008*
'TOTAL	All products	75,904,200	100,352,640	121,200,608	145,898,048	181,860,896
	Available Products	1,697,349	1,837,466	1,945,581	2,133,431	2,466,025
'4202	Trunks,suit-cases,camera cases,handbags etc,of leather,plas,tex etc	485,231	533,241	567,819	645,583	757,067
'4203	Articles of apparel&clothing access, of leather or composition leather	494,234	517,568	516,639	529,247	713,648
'4107	Leather of other animals, o/t leather of hd no 41.08/41.09	174,659	276,681	312,314	404,773	395,296
'4113	Leather further prepared after tanning or crusting ""incl. parchment-dressed leather"", of	62,480	113,778	143,245	169,377	246,675
'4201	Saddlery and harness for any animal, of any material	57,585	74,836	81,657	98,957	103,195
'4112	Leather further prepared after tanning or crusting ""incl. parchment-dressed leather"", of	10,642	28,544	44,450	66,917	66,717
'4205	Articles of leather or composition leather, nes	40,689	49,478	44,374	47,134	45,214
'4104	Leather of bovine/equine animal, other than leather of hd 4108/4109	120,688	74,654	90,241	76,875	34,110
'4106	Goat/kid skin leather, other than leather of hd no 41.08/41.09	218,558	130,239	97,020	45,696	32,235
'4101	Raw hides&skins of bovine/equine animals	2,189	4,189	3,302	12,489	28,704
'4103	Raw hides&skins nes	952	4,374	12,273	14,873	14,019
'4102	Raw skins of sheep or lambs	42	934	332	712	12,927
'4105	Sheep/lamb skin leather,other than leather of hd no4108/4109	11,369	9,733	14,908	11,098	11,039
'4114	Chamois leather, incl. combination chamois leather (excl. glacé-tanned leather subsequentl	73	779	4,354	1,961	3,326
'4115	Composition leather with a basis of leather or leather fibre, in slabs, sheets or strip, w	369	265	560	393	620
'4204	Articles of leather or composition leather for technical uses	9,555	11,986	8,225	4,785	546
'4206	Articles of gut, of goldbeater's skins, of bladders or of tendons	7,630	5,810	3,739	2,296	442
'4301	Raw furskins & pieces suitable for furriers' use, nes	7	55	23	44	153
'4304	Artificial fur and articles thereof	144	44	38	102	52
'4303	Articles of apparel, clothing access and other articles of furskin	253	272	68	3	34
'4302	Tanned or dressed furskins & pieces, unassembled or assembled	0	6	0	116	6
'4108	Chamois leather	0	0	0	0	0
'4109	Patent leather and patent laminated leather; metallised leather	0	0	0	0	0
'4110	Parings and other waste of leather; leather dust, powder and flour	0	0	0	0	0
'4111	Composition leather, in slabs, sheets or strips	0	0	0	0	0

Source: Computed from COMTRADE

The other exporting countries showing high growth are Romania, France, Vietnam and Belgium. During the same period the growth of exports had been lowest of the 14 countries in Hong Kong. Table 3.12 shows the nature and composition of exports of leather products in the past two years. Leather footwear accounts for the highest share in India's leather related export basket and the share increased from 32.22 per cent in 2006/07 to 33.48 per cent in 2007/08. In terms of unit value leather garments fetch the highest unit value of all and that increased from Rs. 1686 to Rs. 2127 during the reference period. As shown in Table 3.12 the share of finished leather that ranks

second in terms of share in total exports has declined from 24.24 per cent in 2006/07 to 23.35 per cent in 2007/08.

Table 3.11
Trends in Growth of Exports of Major Footwear Exporting Countries
(in mn. US$)

Country	*2002*	*2006*	*% Increase*
China	10680.64	21014.63	96.75
Italy	6508.59	8141.77	25.09
Hong Kong	5466.33	5692.85	4.14
Belgium	1841.77	2960.28	60.73
Germany	1518.05	2607.89	71.79
Spain	2023.96	2147.74	6.12
Brazil	1450.97	1863.11	28.40
Netherlands	742.55	1577.42	112.43
France	931.91	1535.21	64.74
Indonesia	1115.06	1514.63	35.83
India	625.25	1236.91	97.28
Romania	754.77	1272.97	68.66
Thailand	736.92	918.55	24.65
Vietnam	1875.22	3039.17	62.07

Source: same as Table 3.9

Table 3.12
Export of Leather and Leather Products from India in 2006-07 and 2007-08

	2006-07				*2007-08*				*% Variation in FOB Value*
	Quantity	*FOB Value*	*Unit value in Rs.*	*% Share in Export Value*	*Quantity*	*FOB Value*	*Unit value in Rs.*	*% Share in Export Value*	
Leather Footwear (Pairs)	79860832	4620.74	579	32.22	77617742	4993.46	643	33.48	8.07
Finished Leather (sq. ft.)	650741171	3476.28	53	24.24	644107012	3482.18	54	23.35	0.17
Leather Goods (Pieces)	105887055	2297.86	217	16.03	91521545	2269.79	258	15.22	-1.22
Leather Garments (Pieces)	8698843	1466.26	1686	10.23	7180180	1527.44	2127	10.24	4.17
Footwear Components (pairs)	40704099	1301.75	320	9.08	37007211	1374.97	372	9.22	5.62
Leather Gloves (Pairs)	99408814	680.69	68	4.75	107643457	765.09	71	5.13	12.40
Harness & Saddlery (Pieces)	12155002	424.44	349	2.96	10813000	418.03	387	2.80	-1.51
Non-Leather Footwear (Pairs)	4949337	71.14	144	0.50	5659274	82.21	145	0.55	15.56
Grand Total		14339.16		100		14913.2		100	4.00

Source: same as Table 3.9

In terms of physical quantity exports increased only in the case of non-leather footwear and leather gloves during 2006/07 to 2007/08 and declined in the cases of the rests. However, FOB values show declines in exports of harness & saddlery and leather goods. This implies that in the case of leather footwear, finished leather, leather garments and footwear components although exports declined in physical units, but the rise in unit value outweighed the fall in quantities and recorded a

positive change in FOB values. Rise in the unit values during the reference period has been highest in the case of leather garments and leather goods recording an increase of 26.15 per cent and 18.9 per cent respectively. In the aggregate gains in FOB value by exports of leather and related goods has been in the tune of 4 per cent during the period 2006/07 to 2007/08.

Table 3.13 shows the export of leather and non-leather footwear and components from India in the year 2007/08. In the footwear segment and components footwear and components related to gents accounts for the highest share in total leather footwear and components exports. In the non- leather footwear segment the highest share in terms of value accounts for non-leather footwear (others) followed by those made up of plastic, PVC and rubber respectively.

Table 3.13
Export of Leather and Non Leather Footwear and Components from India 2007-08

Product	Quantity (in pairs)	FOB Value (in Rs. Crores)	% Share (value wise)
Leather Footwear (Children)	6603339	339.03	6.78
Leather Footwear (Gents)	41040658	2896.93	58.02
Leather Footwear (Ladies)	27396999	1589.49	31.83
Leather Footwear (Others)	2576746	168.02	3.37
Total	77617742	4993.46	100.00
Leather Components (Children)	1369719	49.26	3.59
Leather Components (Gents)	19584262	813.5	59.17
Leather Components (Ladies)	8350742	442.76	32.2
Leather Components (Others)	7702488	69.43	5.05
Total	37007211	1374.97	100.00
Non Leather Footwear (Plastic)	2198411	21.51	26.17
Non Leather Footwear (PVC)	789542	15.42	18.77
Non Leather Footwear (Rubber)	2284991	16.45	20.01
Non Leather Footwear (Others)	386330	28.81	35.05
Total	5659274	82.21	100.00

Source: same as Table 3.9

Table 3.14 shows the export of leather related goods from various regions from India. The number of leather footwear exports has been highest from the northern region followed by southern and central region. However in terms of unit value, footwear from southern region fetched the highest value. As shown in the table the unit value of non-leather footwear has been the lowest of all the categories of leather related exports. However, the unit value derived from non-leather footwear sourced from the central region is of high value compared to other regions. Exports of non-leather footwear from southern, central and eastern regions declined in physical units. Export of non-leather footwear declined sharply in the case of eastern region falling from

48400 pairs in 2006/07 to 1026 pairs in 2007/08. Leather footwear from central region gained the highest in terms of unit value — it increased from Rs.396 to Rs.569 during the reference period.

Table 3.14
Export of Leather and Non Leather Footwear and Components by Regions

Products/ Region	*2006-07*			*2007-08*		
	Quantity (Pairs)	*FOB Value (Rs. crores)*	*Unit value in Rs.*	*Quantity (Pairs)*	*FOB Value (Rs. crores)*	*Unit value in Rs.*
Southern						
Leather Footwear	23755626	1822.96	767	26796768	2053.01	766
Footwear Components	19934493	879.00	441	18760496	917.61	489
Non-Leather Footwear	1326807	9.13	69	782520	4.20	54
Northern						
Leather Footwear	24805589	1524.37	615	25914744	1667.42	643
Footwear Components	4772084	124.15	260	4780033	121.02	253
Non-Leather Footwear	1969713	34.89	177	2610382	49.40	189
Central						
Leather Footwear	19466022	770.91	396	13623375	774.82	569
Footwear Components	13031330	253.88	195	12285612	302.55	246
Non-Leather Footwear	203042	8.87	437	172588	6.70	388
Eastern						
Leather Footwear	430663	19.77	459	428724	22.63	528
Footwear Components	337617	10.42	309	486449	12.67	260
Non-Leather Footwear	48400	0.47	97	1026	0.01	97
Western						
Leather Footwear	11402932	482.72	423	10854132	475.58	438
Footwear Components	2628575	34.30	130	694171	21.12	304
Non-Leather Footwear	1401375	17.78	127	2092758	21.89	105

Source: same as Table 3.9

Table 3.15 shows the trends in exports of leather and non-leather footwear and components from various states. Tamil Nadu has the highest share, i.e., 36.11 per cent in aggregate exports from India followed by Uttar Pradesh (29.33 per cent) and West Bengal (14.86 per cent).

In the past two years however the share of Tamil Nadu declined marginally while that of U.P. and West Bengal increased during the same period. In 2006/07 FOB value of

Rs. 5277.24 cr. had been exported from Tamil Nadu and in 2007/08 this increased to Rs. 5385.30 cr. Delhi, Maharashtra, Haryana, Karnataka, Punjab and others each accounts for less than 10 per cent of the export share. However in the cases of Maharashtra,, Haryana, Punjab and others the FOB value declined by 3.33 per cent, 1.65 per cent, 12.5 per cent and 2.31 per cent respectively. The largest increase in FOB value during the reference period is being recorded in the case of Delhi marking a rise of 7.37 per cent.

Table 3.15
Export of Leather and Non Leather Footwear and Components by States

State	*2006-07*		*2007-08*		*% Variation in FOB Value*
	FOB Value (Rs. crores)	*% Share in Total Exports*	*FOB Value (Rs. crores)*	*% Share in Total Exports*	
Tamil Nadu	5277.24	36.80	5385.30	36.11	2.05
Uttar Pradesh	4108.35	28.65	4374.33	29.33	6.47
West Bengal	2.85.60	14.54	2216.55	14.86	6.28
Delhi	936.81	6.53	1005.83	6.74	7.37
Maharashtra	847.26	5.91	819.04	5.49	-3.33
Haryana	630.21	4.40	619.79	4.16	-1.65
Karnataka	199.35	1.39	259.96	1.74	30.40
Punjab	157.91	1.10	138.17	0.93	-12.50
Others	96.43	0.67	94.20	0.63	-2.31
Total	14339.16	100.00	14913.17	100.00	4.00

Source: same as Table 3.9

Table 3.16 and Table 3.17 show the export of leather and leather products from Uttar Pradesh and West Bengal respectively. The data of these two states are shown because in this study we would report the findings of the surveys conducted on two footwear clusters, Agra and Kolkata located in these two states.

In the case of U.P. leather footwear accounts for 48.14 per cent, the highest share in the total exports from the state, while in West Bengal leather goods accounts for the highest share, that is, 59.28 per cent. In U.P. the other major components of exports are finished leather, harness and saddler and footwear components comprising of 29.37 per cent, 9.5 per cent and 8.16 per cent of the total exports from the state. However in case of West Bengal besides leather goods the other major contributors to exports are leather gloves, finished leather and leather garments having 29.97 per cent, 7.19 per cent and 1.96 per cent of the total exports from the state.

Table 3.16
Export of Leather and Leather Products from Uttar Pradesh

	2006-07				2007-08				% Variation in FOB Value
	Quantity	FOB Value (Rs. crores)	Unit value in Rs.	% Share in Export Value	Quantity	FOB Value (Rs. crores)	Unit value in Rs.	% Share in Export Value	
Leather Footwear (Pairs)	38074704	1974.34	519	48.06	33254616	2105.98	633	48.14	6.67
Finished Leather (sq. ft.)	281817457	1181.12	42	28.75	285089163	1284.77	45	29.37	8.78
Harness & Saddlery (Pieces)	12024752	420.93	350	10.25	10697918	415.38	388	9.5	-1.32
Footwear Components (pairs)	14867525	314.26	211	7.65	13965730	356.99	256	8.16	13.60
Leather Goods (Pieces)	15406016	143.02	93	3.48	5942133	136.43	230	3.12	-4.61
Leather garments (Pieces)	309127	54.71	1770	1.33	334717	57.78	1726	1.32	5.61
Non-Leather Footwear (Pairs)	881908	19.38	220	0.47	590585	14.55	246	0.33	-24.92
Leather Gloves (Pairs)	92806	0.58	62	0.01	169646	2.45	144	0.06	322.41
Grand Total		4108.35		100.00		4374.33		100.00	6.47

Source: same as Table 3.9

Table 3.17
Export of Leather and Leather Products from West Bengal

	2006-07				2007-08				% Variation in FOB Value
	Quantity	FOB Value (Rs. crores)	Unit value in Rs.	% Share in Export Value	Quantity	FOB Value (Rs. crores)	Unit value in Rs.	% Share in Export Value	
Leather Goods (Pieces)	51849923	1275.19	246	61.14	51601174	1313.90	225	59.28	3.04
Leather Gloves (Pairs)	95667956	574.64	60	27.55	103504729	664.41	64	29.97	15.62
Finished Leather (sq. ft.)	36162362	159.74	44	7.66	34136669	159.40	47	7.19	-0.21
Leather garments (Pieces)	989977	45.35	458	2.17	1126072	43.53	387	1.96	-4.01
Leather Footwear (Pairs)	430663	19.77	459	0.95	428724	22.63	528	1.02	14.47
Footwear Components (pairs)	337617	10.42	309	0.50	486449	12.67	260	0.57	21.59
Harness & Saddlery (Pieces)	6900	0.02	29	0.00	2625	0.01	38	0.00	-50.00
Non-Leather Footwear (Pairs)	48400	0.47	97	0.02	1026	0.01	97	0.00	-97.87
Grand Total		2085.60		100.00		2216.55		100.00	6.28

Source: same as Table 3.9

Leather footwear sourced from Uttar Pradesh earned Rs. 633 unit value and leather footwear exported from West Bengal earned Rs. 528 unit value in the year 2007/08. Leather garments produced in Uttar Pradesh derived unit value, Rs. 1726 and those sourced from West Bengal could earn Rs. 387 per unit. Comparing the two points of time in West Bengal FOB value of exports declined in the cases of finished leather, leather garments, harness and saddler and non-leather footwear. There had been a

large decline in FOB value of exports, 97.87 per cent recorded in the case non-leather footwear in West Bengal. In U.P. there had been a marked increase in FOB value in exports of leather gloves. However, decline in FOB value has been recorded in the case of harness and saddler, leather goods and non-leather footwear. There has also been a marginal decline in exports of leather footwear, footwear components, leather garments in physical units although the decline has not been reflected in FOB value because of a compensating rise in the unit values of respective commodities.

Table 3.18 shows the pattern of exports from Agra, Uttar Pradesh — one of the largest footwear cluster in India. Agra is famous for leather shoes producing both for exports as well as for the domestic markets. The share of leather footwear is highest in Agra's export basket accounting for 95.65 per cent followed by footwear components (3.57 per cent), non-leather footwear (0.58 per cent), leather goods (0.14 per cent). In 2007/08 Agra exported leather footwear with FOB value amounting to Rs.1258.78cr. marking a rise of 13.64 per cent over the previous year. However in terms of FOB value declines are recorded in the case of non-leather footwear and footwear components.

Table 3.18
Export of Leather and Leather Products from Agra Cluster

	2006-07			*2007-08*			*% Variation in FOB Value*
	Quantity	*FOB Value (Rs. crores)*	*% Share in Export Value*	*Quantity*	*FOB Value (Rs. crores)*	*% Share in Export Value*	
Leather Footwear (Pairs)	16825316	1107.66	94.94	18364585	1258.78	95.65	13.64
Footwear Components (pairs)	1522669	47.48	4.07	1477631	47.01	3.57	-0.99
Non-Leather Footwear (Pairs)	591666	9.17	0.79	299997	7.69	0.58	-16.14
Leather Goods (Pieces)	284013	1.53	0.13	383288	1.85	0.14	20.92
Finished Leather (sq. ft.)	66333	0.71	0.06	69996	0.74	0.06	4.23
Harness & Saddlery (Pieces)	4308	0.18	0.02	0.00	0.00	0.00	0.00
Leather garments (Pieces)	14	0.00	0.00	60	0.00	0.00	0.00
Leather Gloves (Pairs)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grand Total		1166.74	100.00		1316.08	100.00	12.80

Source: same as Table 3.9

Table 3.19 shows exports of footwear from different clusters in India. In leather footwear the cluster that accounted for the highest FOB value in the year 2007/08 was

Agra amounting to Rs. 1258.78 cr. followed by Ambur, Kanpur, Chennai and Ranipet. Agra also accounts for the highest number of non-leather footwear exports in terms of physical units. While in terms of FOB value Gurgaon cluster accounts for the largest amount of exports of non-leather footwear, Rs. 20.18 cr. in 2007/08.

Table 3.19
Export of Footwear from Various Clusters in India, 2007-08

Name of the Cluster	*Leather Footwear*		*Non-Leather Footwear*	
	Quantity (Pairs)	*FOB Value (Rs. crores)*	*Quantity (Pairs)*	*FOB Value (Rs. crores)*
Agra	18364585	1258.78	299997	7.69
Chennai	5206681	398.56	-	-
Ambur	13087436	993.11	19060	0.38
Ranipet	4567996	380.83	-	-
Vaniyambadi	84339	5.05	-	-
Kanpur	9712151	551.97	172588	6.70
Noida	1759702	91.26	118000	0.16
Gurgaon	3222969	160.98	123208	20.18
Panchkula	312694	30.36	-	-
Karnal	678683	40.27	110074	1.83

Source: same as Table 3.9

chapter **4**

Footwear Units in Kolkata: A Case Study

4.1 Introduction

Leather has been one of the important manufacturing activities in India both in terms of employment as well as a source of foreign exchange. This sector provides employment to about 2.5 million workforce in our country and happens to be the eighth largest source of foreign exchange. Since Independence the growth and distribution of firms by size categories in leather sector had been largely influenced by policies undertaken by the government. Since 1973, several expert committees commissioned by the Government of India recommended policies such as, ban on exports of raw hides and skins, reduction of import duty on machinery and inputs, delicensing of the industry, targeted campaign to raise foreign capital, establishment of training authority and finally de-reservation of the industry from the SSI sector (Banerjee and Nihila, 1999). These policies resulted in a structural change in output and exports that gradually shifted the export basket from semi-finished leather to finished leather and leather goods of higher value addition. Because of the fact that this sector had been providing employment to a large section of downtrodden people including the Muslims and the Scheduled castes even before Independence, during the post Independence period this aspect of protecting employment gained importance in policies and remained the major backdrop of reserving production of footwear to the small firms.

India exports footwear and components, leather goods, finished leather, leather garments, saddlers and harness mostly to European countries and USA and the bulk of these goods are produced by small enterprises. In the year 2007-08 the export of leather products amounted to Rs. 140007.33 million and the CAGR in exports in the last five years was 11.91 per cent (CLEI, 2009). Similar to all other sectors in India, leather industries are undergoing change as a result of deregulation and export orientation. The shift in policies was mainly spurred by the reasons as follows:

a) Restrictions on environmental considerations have resulted in a change in the division of labour where firms engaged in leather processing, tanning and in producing leather goods are relocated in developing countries where pollution norms are relatively less strict. This new context provided opportunities to developing countries to increase their share in global leather and related trade; b) The initial thrust in protecting and creating employment was gradually deemphasized in view of enhancing export earnings. Policies were targeted to encourage modernization and consolidation that could help reaping benefits of scale economies. What all these meant is the simple fact that reservation although helped generating employment but looking in terms of competitive efficiency, once we are exposed to global markets, higher scale of operation and increasing productivity gained greater importance.

In this backdrop we intend to inquire about whether consolidation, vertical integration, graduation in terms of size and so on are necessary outcomes of deregulation or not. In this view we investigate in our case study an age old cluster of small footwear producers in Kolkata, West Bengal. According to the Council for Leather Exports there are around 26 clusters of small enterprises producing leather and leather related products spread across 11 states in India. Footwear and components account for the highest share, 42.44 per cent of total export basket related to leather and India is the second largest footwear producer after China constituting 14 per cent of global footwear output. In this context we look into Kolkata, primarily an artisanal cluster, the peculiarity in which is the presence of a clear disconnect in output between exporting firms and those producing for the domestic market.

Historically, Kolkata had been the site for traditional tanning activities producing annually around 900 million pieces of cattle-hide and goatskins in 540 tanneries located in Tangra, Tilzalla and Topsia area. At present tanneries are shifted to Bantala abiding by the Supreme Court order and the new leather complex therein hosts 200 tanneries producing 500 tones of leather per day. However, in terms of export Kolkata accounts for 60 per cent of total exports of leather goods e.g., wallets, ladies hand bags, industrial gloves, travel and luggage bags, briefcases, caps and toys (CLEI, 2008). These are produced in relatively larger units employing more than fifty workers and located at Kasba , Topsia and Beliaghata. On the other hand there are around 4500 units of small and tiny enterprises producing footwear, mostly *Chappals*

those sold in the domestic market. The footwear manufacturing small firms are concentrated near Kalabagan, Ahmastreet area, Hatibagan, Tantibagan, Phoolbagan, Narkeldanga, Rajabazar and Tangra-topsia area. The geographical distribution of small units is related to product specialization i.e., firms in Tantibagan and Phoolbagan are mainly specializing in producing ladies and children footwear while others located in and around Kalabagan and Rajabazar are producing gents *Chappals*.

It is difficult to identify all of the manufacturing units because the units are dispersed at different corners of the city. We follow the sub-sector approach, or the branch specific case study based on detailed unstructured interviews of key local informants (Boomgard *et al*, 1992). In addition selective sample are surveyed taking into account the geographical distribution and the mode of specialisation of the units. The sample units are selected randomly from Kalabagan, Rajabazar and Tantibagan areas covering 48 units of which 10 are relatively big units. The three areas chosen represent different product specialisation. The social and cultural background of the owners as well as that of the workers is also diverse in these areas. The survey was carried out during the period, December 2008 to January 2009. By interviewing firms of different size and activity and the local traders dealing in footwear, the quantitative and qualitative information received enable us to explain the inner dynamics of the cluster. The purpose of the case study was to inquire about the production organization of the firms, their backward and forward linkages, the dynamics of the cluster, in the sense, the subcontracting relationships and how it is related to the dynamics of distribution of size categories of units within the cluster.

4.2 Overview of the Cluster

The small enterprises in Kolkata engaged in producing footwear are mostly artisanal rooted home based units. In the sample there are four units that started production in the pre-Independence period and the number of units those started operation in pre-1980 is 16 and the rest emerged later on. Mode of existence, ownership and social background of the owners are reported in Table 4.1. During the period 1991 to 2009 the number of new start ups is 22 of which 3 of them started business in the past three years. Out of the total number of 48 units surveyed 23 units possess some formal existence, i.e., at least they have trade licenses issued by the respective local authorities while the rest 25 units have no formal existence. The informal nature of

work and the way they organize the production has been linked to the ownership pattern of the firms. It is found that 87.5 per cent of the units surveyed are either owned as proprietorship or as family owned household unit. The cluster is absolutely male dominated in terms of ownership and only one owner out of the 48 firms visited was reported to be female. One reason of this skewed distribution in ownership in terms of gender possibly could be that the producers are historically migrant workers from Bihar mostly from districts such as Munger, Madhubani, Nalanda, Jamui, Banka, Begusarai and Khagaria and they mostly retained their families in their native places. Because of this fractured families the cluster is highly male dominated and we hardly find female workers working in the units even though the job requires relatively less physical power. The social background of the owners also reflects the artisanal roots of the cluster. Traditionally by Hindu caste hierarchy tanning and producing footwear is considered to be a 'dirty' job and assigned to the caste known as *Chamars* who belong to the Scheduled Castes. Later on Muslims and Chinese in Kolkata entered into tanning activities in Tangra-Topsia area and gradually participated in the production of footwear. The owners in nearly 80 per cent of the cases started as apprentice in their family unit or in a neighboring unit and gradually attained skill though on the job training to start a separate unit. We found 11 owners out of 48 having no formal education, another 25 only passed the primary and middle level and only 2 graduates in the total sample.

Table 4.1
Ownership Pattern and Social Background of the Owners in Kolkata Cluster

Mode of Existence		*Religion of the owner*	
Formal	23	Hindu	34
Informal	25	Muslim	14
Total	**48**	Total	**48**
Ownership		**Previous occupation of the owner**	
Proprietorship	30	Leather related	38
Family owned (HE)	12	Others	10
Partnership & oth.	6	Total	**48**
Total	**48**	**Educational background of the Owner**	
Sex of the owner		Graduate	2
Male	47	H. Secondary	3
Female	1	Madhyamik/high school	7
Total	**48**	Middle school	16
		primary	9
		No formal Ed.	11
		Total	**48**

Source: Survey results

The educational background of the owners simply reflects the fact that in Kolkata activities related to the production of footwear remained heavily linked to caste and could hardly attract entrepreneurs with better educational endowments.

There are two peak seasons in the industry ─ one, during pre-festival period, i.e., August to October and the other during summer, i.e., February to May. However, in most of the small units, production continues uninterruptedly only for three to four months in a year.

According to the size of output there are broadly three categories of units those may be reported as follows: a. producing less than 200 pairs per week and their share in the total sample during peak and slack periods are 39.6 and 77.1 per cent respectively; b. producing between 200 to 500 pairs per week accounting a share of 35.4 and 14.6 in the sample during peak and slack periods respectively; c. 25 per cent of the sample units produce more than 500 pairs per week and the share of such units during slack period is only 8.33 per cent. By employment during peak and slack periods we can identify similar categories: a. 54.2 per cent of the sample employ less than six workers during peak period and 81.2 per cent of the sample units employ less than six workers during slack period; b. 45.8 per cent of the units during peak season and 18.7 per cent during slack periods employ more than six workers.

Fluctuations in terms of output and employment also reveal the fact that the number of workers retained in slack period is the minimum number working throughout the year. Hence, the number of units employing more than six workers throughout the year is 9 out of 48 firms surveyed. Table 4.2 also reports the highest number of workers employed in a firm within the sample. We come across a single unit producing 3000 pairs per week employing 85 workers in the peak season and 2000 pairs per week employing 60 workers during slack period.

Surprisingly enough Kolkata footwear cluster is no longer producing leather *Chappals* for which it was well known in the past. Both demand and supply factors contribute to this shift. As regards supply, the traditional small tanneries are not allowed to operate in residential areas and hence either closed down or relocated to Bantala leather complex. The new place is far away from the city as a result of which labour cost and other transaction costs increases and on the other only bigger firms could relocate

production to the new site that require fresh lease of investments. As a result cost of leather increases and higher prices fetch lesser customers especially those producing for the mass market. Second, the demand has also undergone a change towards non-leather footwear, those assumed to be cheaper and more durable compared to leather products. Especially there has been significant progress in producing 'leather-look' and 'leather-like' close substitutes that has impacted upon the footwear industry at large throughout the world. Barring a thin segment of the upper-middle-class market footwear consumption has drastically shifted towards non-leather items and Kolkata has adapted to the changing demand. As a result the share in the consumption of leather has increased for exporting units those produce leather goods such as wallets, ladies bags, industrial gloves and sell them to Italy, Spain, Germany, France, Belgium and USA. These units are hundred per cent export oriented units employing 70 to 350 workers. What appears to be interesting is that these exporting units are located within the leather cluster using easy access to raw materials and the pool of traditional labour but they are in no way linked with the small producers in the cluster. Mostly the relatively bigger units do not produce for the domestic market and only very few of the bigger firms are engaged in the production of footwear.

Table 4.2
Distribution of Units by Employment and Output Size Categories during Peak and Slack Periods

No. of Workers	*Peak*	*Slack*	*Pairs/Week*	*Peak*	*Slack*
Less than 2	2	17	Less than 100	3	23
3 to 6	24	22	100-200	16	14
7 to 10	14	5	201-300	9	4
11 to 15	4	0	301-500	8	3
15 and+	4	4	501-1000	6	2
Total	48	48	1001-3000	6	2
Highest Reported	85	60	Total	48	48

Source: Survey results

4.3 Production Organization

The raw material used in the production of *chappals* are ─ leather, foam, rexin, rubber, PVC soles, leather board, sponge, rubber milk and adhesives. *Chappals* are normally made up of head skins, however, higher qualities of goat leather are used to make leather bags and high valued ladies *Chappals*. Non-leather substitutes imported from Korea and China is easily available from local traders. The traditional cobblers use simple tools such as, stone, scales, scissors, hammers nails, various dies, *chakki,*

khurpi, lehenga, punch and punch-boards. They produce footwear of lower quality depending on traditional manual skills. We come across a few footwear producers who invested in higher order stitching machines in order to meet the stipulated standards demanded by the parent firm. Product specialisation is high in the cluster and the units specialise in producing ladies, gents and baby footwear. Apart from basic raw materials some intermediate products such as PVC soles and wooden heels in the case of ladies *chappals* are procured from traders. Most of the inputs are procured from local traders who source them from outside the state. Leather boards used in Kolkata are usually procured from Jalandhar and Chennai and latex from Kerala. Although foams used in making non-leather footwear are produced within the state. There use to be more than 200 types of accessories related to footwear sold in an average shop dealing in footwear items and increasingly the demand is for embroidered accessories. Raw material prices vary in a big way between peak and slack periods. In the case of latex and other solutions and for some tools the variation might be as high as 100 per cent and in the case of soles prices in peak seasons rise by more than 55 per cent compared to slack periods.

Since most of the firms do not have any formal existence it is obvious that transactions with formal credit institutions normally do not happen much. Most of the small units depend on friends and relatives for short term credit or borrow funds from the informal credit market paying interests ranging from five to eight per cent per month. However trade credit is available from raw material traders for seven days and sometimes from the parent unit those adjusted in payments that follow. This network of credit, the social capital is heavily influenced by non-economic factors such as caste, religion and residential status of the owner. Usually people from the same religion enjoy greater benefit and since large number of the raw material suppliers are from a specific religion, producers of the same religion reap the benefits of trust. Credit is less available to owners who retained their migrant status, i.e., keep their families in villages and visit their home once or twice a year. Normally it is held that security of repayment is relatively less in the case of such borrowers compared to a fully-fledged settler and hence migrants are deprived of equal access to credit.

According to the production organisation three layers of small units can be identified. Apart from the few independent units who sell their products in their own brand names, the categories of small firms are as follows:

1. A few subcontracting units are linked with one or two reputed brands such as, Khadims, Sreeleathers, Elite, Elegant, Bata, Ford, Dynasty those having high market shares. The raw material of specified quality is supplied by the parent unit and whole of the produce is purchased.
2. Most of the small firms in the cluster produce *chappals* of different designs and quality and supply them to two or three specific traders. In these cases, the small producer has to buy raw materials and supply the final product to the trader.
3. There are units, who do not maintain any fixed relationship with any trader and sell goods of inferior grade at Birshulhat or College Street market. The wholesalers purchase footwear directly from the producer, and pay on spot.

Very few units in the cluster have their own designers. In most of the cases either the owner improvises designs or assigns freelance designers or *masters*, who sell designs at the rate of Rs. 130-150 per variety. Normally, the producer has to change designs at least thrice a year. Sometimes designs are also provided by parent firms. Usually 10 to 12 pairs of various designs are prepared before each season and each pair costs Rs. 200-250. Hence, this is a kind of fixed investment at the beginning of the season by the small producer in order to receive orders from traders or parent firms. The margin of the producer depends on the marketability of his design and can derive extra profits as long the novelty of the design remains in the market. Sometimes a single design stands the test of marketability for about six to eight years although the economic rent attached to it declines over the years. The traders supply unique designs given by a definite producer to others. In this way the trader aims at reducing the economic rent which the individual small producer derives from innovation.

Small firms engaged in a subcontracting relation with reputed brands propose designs at least twice a year to the specific shops of the parent unit. These designs if endorsed are placed for orders in requisite quantity. Necessary raw materials are supplied either directly, or through issuing coupons, by which the subcontracting unit may collect specified materials from traders. Representatives of the parent unit visit regularly to

monitor the quality of production. Because, these reputed firms have retail outlets across the country the life cycle of a specific design spans a longer period. As a result, the subcontracting unit receives production orders throughout the year. Otherwise, most of the small firms try to maintain transactions with two or three traders simultaneously, so that if payments delayed in one, they can switch to the others. It is quite common that after work orders being issued to small producers for the ensuing peak season, the prices of raw materials increase. This is possibly due to a nexus between local dealers of raw materials and footwear traders. The burden of higher cost is transferred to the small producers, as the contract of supply price remains unchanged.

Footwear produced in Kolkata are sold to wholesalers having shops in College Street market or popularly known as Yahudi market. One of the specialties of Kolkata footwear market is that goods are sold with a guarantee of at least three months which is rarely offered in other domestic markets and not even for products imported from Taiwan and China. These wholesalers sell the *Chappals* through showrooms located in different district towns in the state as well as in states such as Jhadkhand, Bihar, Orissa, Assam, Tripura and other north eastern states. Competition within the small producers is primarily based on price and hence cutting costs is the usual route to grab a greater share of orders from the parent units or traders. As reported increasing use of moulded non-leather products produced at Delhi has largely affected Chappal producers in Kolkata. These non-leather products (e.g. Eva Chappals) cost Rs. 40 to 70 a pair, while no leather footwear can be sold at a price less than Rs. 200. As a result producers are forced to work at a lesser margin and the traders' margin has also been drastically reduced. Moreover, there has been a change perceived in the demand pattern of footwear. Earlier demand for Chappals used to be high in festive seasons but now it is spread more evenly throughout the year. Most of the producers reported a decline in orders in recent past possibly because of the impact of recession that has affected the real economy.

4.4 Labour Processes

Workers and their home based units situated in the dirty congested slums reveal explicitly the marks of poverty and deprivation. Places of residence and production sites are clubbed into a small rented room, where a wooden *chouki* is the only private

place to rest. Earlier the traditional *Chamars* migrated from Bihar and UP were the only producers of footwear. However, people with different caste and religious identities have entered into the labour market in the past few decades. The worker acquires skill and training at an early age either by observing the production process in his family unit or working as apprentice in other's unit. Normally an unskilled worker requires on the job training for about 8 to 12 months to acquire a specific skill. The labour market is flexible and competitive, and wages are paid on the basis of piece rate. Abundant supply of labour together with the absence of labour institutions such as, trade unions has pushed down wages to the reservation level. Various occupations related to footwear are the following: *soleman*, *upperman*, those engaged in stitching, fitting, finishing and stamping. Some workers specialize in embroidery work and based on designs if required these people are called for. The helper is actually the apprentice, who starts his carrier by bearing orders of skilled workers. Wages for various occupations are more or less uniform across the units as shown in Table 4.3. The average income of a skilled and unskilled worker in Kolkata footwear cluster amounts to Rs. 2300 and Rs. 1400 in a month respectively. The declared total minimum wages/ day in tannery and leather manufacturing in West Bengal as on 07.03.2009 was Rs. 126.42, Rs. 130.27 and Rs. 136.04 for unskilled, semi-skilled and skilled workers respectively. Hence, actual wages paid to workers is much less than the declared minimum wages in the specific occupation.

Table 4.3
Wages by Occupational Categories
in Footwear Producing Units in Kolkata

Occupation	*Wages (in Rs./dozen)*
Soleman	100-120
Upperman	60-72
Stitching	30-35
Fitting	24
Finishing	20
Embroidery	24
Stamping	5
Helper	1000/month

Source: Survey results

The 'soleman' and the 'upperman' are usually fixed employees in a specific unit while fitting and sewing jobs are mostly outsourced. In most of the units work is done on 'putting out' system and during peak seasons a worker works for 16-18 hours per day. Workers are employed on contractual basis according to need. Most of the

owners try to retain the skilled upperman and soleman even in off-season. They engage them in producing a minimum level of stock or goods those sold at a lesser margin during the slack period. Most of the workers have to seek alternative occupations such as, working as *rajmistri* (construction jobs), *mutia* (loading/unloading jobs) or agricultural labour during off-season. Many of them also migrate to other states for footwear jobs where festival seasons are different from Bengal. The occupational multiplicity as well as cyclical migration of the working poor across space and occupation has been recognised as a significant feature of Asia's labour market. These are the 'wage hunters and gatherers' who move horizontally for alternative occupations during crisis (Jan Breman as quoted in Kannan and Rutten, 2004). Another important feature of the labour market is its migrant nature and the related household structure. Most of the workers migrated from different parts of Bihar keep their families in home villages. This fractured household, as well as multiple occupations, in a way helps conceiving of a low reservation wage.

On an average during peak season, depending upon the design, 5 workers, engaged in various occupations taken as group produce 24 to 36 pairs of Chappals on working 15-18 hours a day. However we can arrive at a somewhat gross measure of labour productivity in peak and slack periods by measuring physical units per worker per day and that comes around 7.74 and 4.61 respectively. The share of labour cost in an average *chappal* produced in Kolkata turns out to be 24.4 per cent. The average realization price of footwear in Kolkata is Rs. 73.83 and the producer's price remains more or less same across seasons.

Table 4.4 reveals the fact that on an average output in physical units of a firm is nearly 42 per cent of that produced in peak periods, however employment in slack periods is nearly 59 per cent of employment in peak seasons. Even if the labour market is fully flexible the decline in employment is less than proportionate to decline in output and that is possibly because of the fact that the owner wants to retain skilled workers during slack periods although that might not match with the production requirements.

Table 4.4
Average Labour Productivity, Realisation Price and Fluctuations in Output and Employment

Parameters	*Mean*	*S.D.*	*Coef. of variation*
Realisation Price/pair	73.83	14.63	19.82
Pairs/Worker/day (peak)	7.741	3.536	45.68
Pairs/worker/day (slack)	4.609	2.412	52.33
Output (slack) as % of output (peak)	41.866	15.622	37.31
Employment (slack) as % of employment (peak)	58.894	17.081	29.00

Source: Survey results

Labour turnover is relatively high in smaller units because these smaller firms cannot engage their workers throughout the year. As a result workers stay in a small unit for six months or one year and could opt for another firm that offers higher wages. Turnover of labour is relatively less in bigger firms those provide assured work for a longer period in the year and in such cases workers stay in the same firm even for 3 to 7 years.

4.5 Dynamic Issues

Footwear cluster in Kolkata bears little resemblance with trends of increased competitive strength achieved in the Indian leather industry. The cluster is mostly confined at the lower end of the multilayered footwear market producing with hand tools, traditional techniques and inputs of inferior quality. As a result, the units in the cluster are barely eking out survival in a situation of losing markets and stagnation. In this section we figure out some of the dynamic issues that largely influence the trajectory of growth of the cluster as the following:

First, increasing use of non-leather materials has a significant impact on the cluster. Earlier, traditional cobblers were only *Chamars* by caste and the social taboo restricted the supply of labour. With the increasing use of materials such as, rexins, PVC soles and foam the industry lost its entry barrier of 'untouchability'. As a result, influx of people from different castes and religion both added the number of units as well as the supply of labour. Moreover, machine moulded PVC soles have also substituted a few stages of insole jobs thus contributing to the relative increase in the supply of labour in the cluster. Greater durability of non-leather materials increases

the life span of footwear. As a result, the cluster catering to the lower end of the footwear market faces a decline in the turnover of sales.

Second, for the middle end of the market expansion in the consumption of footwear signifies a changing pattern of demand. The consumers are least concerned about durability and reasonably pay for multiple styles and designs. In order to respond to this changing pattern of demand the cluster should concentrate on design intensive jobs producing different styles of uppers that cannot be easily machined. Otherwise, in the market for standardised goods, price is the only cutting edge in competition and that too cannot be lowered much further. Because, the wages paid to the workers are very close to the reservation wage level. Earlier *chappals* from Calcutta were supplied to Delhi, Chennai, Kerela, Bangalore and Assam in larger quantities. However, emergence of production sites in different parts of the country resulted in a decline in Calcutta's share in the domestic market.

Third and perhaps the most important fact is that the small manufacturing enterprises have to depend on traders to sell their products. Competition is based on the supply price, and the only way to increase sales is to reduce the supply price. In other words, the small producer has to share an increasing portion of his profit with the trader in order to increase sales. Generally by selling an ordinary *chappal* the owner's share of profit is only Rs.5 to Rs.10 per pair. The larger share of margin derived from the sale of a footwear goes to the retailer. Normally the retail price is nearly 2.5 times the realization price of the producer. In dealing with the trader payments are delayed and on an average 30 to 60 per cent of the net claim is only realised in each deal with the trader. This mode of payment accelerates transfer of a portion of the small producer's capital to the trader. And, the producer becomes dependant in such a way that s/he cannot break the relationship until he realises the due claim. In such a situation, the small producer is ever inclined to produce goods with higher value-added because such venture would lead to a transfer of further greater amount of productive capital to the traders. Firms working as subcontractors to reputed brands face further problems. They had to buy stipulated branded raw materials bearing marks of a specific company, especially soles, by involving higher working capital. Now if a lot is rejected by the parent firm the subcontractors have no way to fall back upon and cannot even realize the costs because of the brand names printed upon those goods

and it becomes a legal offense if a producer sells those rejected goods in the market carrying brand names. As a result, in many instances such rejection from parent firms had destroyed a large chunk of the working capital of the subcontracting unit. Moreover, it is a credible threat that reproduces dependence upon the specific parent firm and sometimes used in reducing the payments made to the subcontracting unit relative to net claims. The proportion of value realized in a subcontracting transaction is also related to the size of the subcontracting firm. If the parent firm purchases in large quantities from the subcontracting firm, the percentage of value realized in each transaction would be relatively higher compared to cases of purchasing smaller quantities. This implies that smaller firms have lesser bargaining power vis-à-vis traders to realize their working capital. There is also a process of cutting down residual payments in the tune of 2 to 3 per cent if a subcontracting firm wants to finally wind up a subcontracting relation with the parent firm.

Fourth, according to the usual proposition of the theory of distribution, the wage is read off from the marginal productivity curve. That says that wages in small enterprises are low because the marginal productivity of the worker is low. However, in any case labour productivity is determined by several factors, which are conditional outside the autonomy of labour and cannot be solely explained by the individual capacity of the worker. Rather in a developing economy the marginal productivity is not an independent variable determining wages rather wage, marginal as well as average productivity are interdependent variables in a labour surplus economy. As a result what seems plausible to conclude that wages are low not because the labour productivity is low, but the opposite direction of causation explains better the wage-productivity relation for the unorganised workers in small manufacturing enterprises. The relationship between wages and work-efforts of workers can be explained by the notion of 'fair wage'— where the effort norm of the worker is not generated by individual rationality but by a social norm, which regulates worker's behaviour. The fair wage is the perceived value of a unit of labour in the context of a wage contract. The fair wage-effort hypothesis based on the sociological notion of 'gift exchange' states that, if the actual wage is less than the 'fair wage', workers supply a corresponding fraction of the normal effort (Akerlof, 1982).

Further, it is held in common parlance, that by dint of insertion in the global value chains, wage claims of workers would increase in developing countries. However, there is no evidence of such increase in wages, instead a decline in the industries that constitute half the manufactured exports from India. Thus, once we recognise the power relations embodied in exchanges in the labour market, we find that the distributional conflicts between labour and capital is never resolved on the basis of their claims competitively determined as return to scarcity in the usual general equilibrium sense. Forces of demand and supply set only the boundaries of space, within which wages are set. Within this space, wages reflect the outcome of bargaining in the context of wage setting institutions and social norms. Change in ideology, politics and resulting changes in the labour market institutions join the economic forces of supply and demand to determine employment and wages. The existence of perfectly competitive factor markets relies on the assumptions that factors have perfect and costless mobility and the marginal products are perfectly and costlessly visible. Relaxing the assumptions opens the possibility that a factor can be paid less than its marginal product and yet still finds it not worthwhile to seek out another employment option. This explains why the workers in Kolkata footwear cluster do not have choices to leave the occupation although they are ill-paid. Rather declining incomes due to lesser availability of jobs in a stifling competition induces a worker toward becoming self-exploitative 'owner' (discussed in the next section).

Fifth, the degree of horizontal cooperation in the cluster is low. This is because, in the absence of defined property rights everyone aims to restrict interactions, in order to defend the premium of asset specificity created through innovative designs. Because new products can be easily copied or supplied by traders to multiply, competition among firms is ultimately on the basis of sale price. In such situations undercutting of prices inhibits trust and inter-firm cooperation is never very strong. Interdependence based on production links is mostly absent, since every one can produce the whole product. While interacting with the traders, the small producers often realise the necessities of cooperation and some associations of small producers evolved in the cluster. The *Charmashilpi Samity* in Rajabazar area (Kolkata) and similar associations of small producers in Tantibagan (Kolkata) were successful in realizing the due claims for their members when some disputes did arise. The *Samity* also succeeded in imposing conditions upon traders of Yahudi market that they have to intimate small

producers, at least one month before increasing the prices of raw materials. They also opened a retail counter at the College Street market where small producers can sell their products directly to consumers. The association also established marketing links with *Charmoja*, a West Bengal Government undertaking and supplied footwear for several months. However, the number of *Charmoja* outlets, as reported has gone down from 56 to 6 over the years and the small producers have no other alternative institutions but to depend on the local traders.

Finally, survival and growth of small firms depend on their ability to carve out their market niche through superior ability to cater to the special needs of customers (You, 1995). Salais and Storper (1992) argues further, that even product specialisation, does not necessarily give advantages to small firms. It is the dedication of such products to customers by which small firms create their market niche. In a design intensive industry what is primarily needed is information and knowledge about the pattern of demand as well as adequate training to respond. Supplies of good quality raw materials should be ensured to meet global standards. In order to explore markets without depending on the intermediaries, collective efforts to form trade associations is required. These institutions to provide public goods are mostly absent in the cluster. Imported footwear due to higher price has marginally affected the domestic middle or lower end of the market. However, these imported goods have largely influenced the tastes and preferences of consumers even in the lower end of the market. Failing to meet the changing demand may result in losing domestic markets, as experienced in Kolkata footwear cluster.

4.6 Spawning of the 'Small': Self-exploitative Fragmentation

The unorganised small manufacturing enterprises draw our attention to the complexities of exchange relationships those are mediated through production organisations and institutions. Market failures due to existence of information imperfections, externalities and public good and the institutional failure to resolve those imperfections only partially explains the depressed status in these clusters. Asymmetric power relations and conflicts arising between the trader and the small producer reproduce a production relation that hinders the high road growth path.

The common dynamics of growth in the small manufacturing enterprise clusters is very much conditioned by the exchange relationship between traders and small producers. The kind of exchange relationship is not similar to the competitive equilibrium conceived of in a Walrasian economy ─ where, the identity of exchange partners is irrelevant, and all agents are indifferent between current transactions and their next best alternative. The trader-producer relationship in these clusters what may be called *contested exchange*, where the trader has the power over the small producer to impose sanctions affecting the future stream of revenue while the latter lacks the capacity with respect to the trader. Exploring the micro foundations of the political economy of capitalism, Bowles and Gintis (1990) identified different natures of contested exchange, prevalent in a capitalist economy. This section draws attention to the centrality of trader-producer *contested exchange* as the key element to explain the growth trajectory of small manufacturing enterprise clusters such as the footwear cluster in Kolkata.

The small producers in these clusters do not face market, where each firm could take price or market demand as given and can largely ignore its competitors. Rather, they had to consider others' behavior. Increasing revenue depends on the extent to which the small firm is agreed to quote a relatively lower price in comparison to others. Further, the capacity to absorb fluctuations in raw material prices and a number of contingencies concerning the future states of the world is the tacit element relevant to the exchange with the trader. In most of the cases, the small producer is engaged in transactions which cannot be precluded let alone guaranteed through contractual agreements. In such situations, profits become more unpredictable. And, maximisation of sales instead of profits becomes the perceivable objective of the firm. The strategy is close to Baumol's (1959) *sales maximization hypothesis*, where the firm maximises sales subject to a minimum profit constraint.

The producer aims to maximise revenue by sharing an increasing portion of his profit to the trader. The small producer can get entry into the market only through the trader and this gives the trader a power of endogenous enforcement during the course of transaction. The trader promises renewal of contract, if satisfied, and terminate it if are not satisfied. The power of enforcement runs from the trader to the producer and not the other way round. The different modes of sanctions and pressure define the

moments of power. To the small producer, increasing the revenue is subject to paying a greater premium of profit to the trader, be it directly or indirectly. The trader transfers the burden of fluctuations in raw material prices to the small producers, compels the small firms to supply at lower rates during off-season, retains a part of the productive capital of small producers through delayed or partial payments, and even increases margin through supplying one producer's specific design to others. However, these are all 'hidden' stories in an incomplete contract between a trader and a small producer and there is no relevant third party to monitor or redress. Bowles and Gintis (1990) identified this kind of contested exchange as *endogenous claim enforcement*, which gives rise to a well-defined set of power relations among voluntarily participating agents even in the absence of collusion or other obstacles to perfect competition.

In the context of such contested exchange the goal of the small producer to maximize sales gives rise to a process of self exploitative fragmentation. This process can be briefly stated as follows, the detailed model being discussed in Roy (2007). In order to increase revenue subject to an acceptable minimum profit the subcontracting unit engages in a contract with the trader/parent firm and agrees to pay a higher premium in order to bag higher shares of orders. This continues even to the extent where the small producer could retain actually no or negative profit but agrees to do so because to the owner of a small enterprise profit is often conceived of as the net of total revenue minus the cost of inputs and the cost of hired labour. The imputed cost of unpaid family labour or his own labour is not considered while computing profits. Because of this misunderstanding although the actual profit is pushed below the acceptable minimum level, the small producer considers it feasible to restore the 'fair' level of minimum profit through reducing costs. As in most of the cases, wages of the workers have already touched the reservation wage level it cannot be pushed down further. And the only way left for the small producer to reduce 'costs' is self-exploitation. This is done either by the owner employing own labour, or unpaid family labour.

On the other hand, large number of small producers depends on a few buyers. The local big dealers face a competitive output market. However, while purchasing inputs or final products from smaller units they behave like oligopsonists. As a result, there

are pressures on the prices for inputs as well as on inputs use, compared to that in a competitive market situation**.** Thus the subcontracting units rather produce finished products at a lower scale. More the degree of imperfection, the less will be the margin of profit for smaller units as the pressure for reducing costs cannot be transferred to the workers whose wage level has already touched the level of reservation wage. The only space left for an owner of a small unit is to restrict the upward mobility of labour, by refusing to recognise his skill accumulation, and thereby claims for increased wage. Capital intensity in these units being relatively low, little amount of capital to buy simple tools and rents for machines is sufficient enough to open a new unit. Therefore, a skilled labour after acquiring some experience about output market can easily move on to start up a new enterprise.

The process of self exploitative fragmentation occurs in both ways: (a) the owner gradually replaces hired labour by herself or by unpaid family labour or, (b) the skilled worker starts an own account enterprise and becomes 'free' to exploit herself while earning higher than his past income as hired labour. Moreover, the earnings of a self-exploitative owner do not necessarily exceed even the incomes received by a hired skilled labour. If the quantity of orders received is low, the owner of an own account enterprise is left with an income even less than that of a skilled labour. Following successive failures to earn at least a skilled worker's wage income the owner lacks the capacity to offer credits to the trader. And she/he is no longer interested in entering into a long-term relation with any trader. The small producer then depends on spot markets or sells to wholesalers, in exchange of cash payment. That is anonymous arms-length market instead of a trader-producer exchange is the last refuge of the small producer.

4.7 Some Observations and Conclusions:

1. Kolkata footwear cluster is the largest producer of *Chappals* in Eastern India. It is an artisanally rooted low-technology cluster with predominantly small home based units. Product specialisation is high in the cluster, where units specialise in producing ladies, gents and baby footwear.

2. There are three layers of units in this small enterprise cluster. Those limited few having subcontracting links with reputed brands, produce goods of specified quality with inputs supplied by the parent firms. The second layer comprises units,

producing goods of various designs on their own, and sells them through traders. Then there are very tiny units, who do not have any subcontracting link and maintain no relation with the traders. They sell their low valued products in spot markets directly to the wholesalers.

3. The labour market is fairly flexible and the work is done on the basis of 'putting out' system. The workers receive wages on piece rate basis, and their average monthly earnings are even less than the scheduled minimum wages, declared for this occupation. Most of the workers are out of job during off-season and have to seek alternative occupations or migrate to other states for footwear jobs, where festival seasons are different from Bengal. Large number of migrant non-Bengali workers keeps their families in home villages. This fractured households, cyclical migration and occupational multiplicity, helps in conceiving of a low reservation wage.

4. The relationship between trader and the small producer is the key element in the dynamics of the cluster. The small producer has to share an increasing portion of his economic surplus with the trader in order to increase sales. The mode of payment between the trader and small producer helps transferring the productive capital to the trader. This not only strengthens the dependent relationship but also inhibits small producers in producing higher valued goods that involves greater amount of capital. Institutions to protect rights on innovative designs are absent and the trader disseminates a specific design to others in order to reduce claims for exclusive designs. In a cluster crowded out with large number of small home-based units, everyone faces a stifling competition. And in the face of losing margins, the owner replaces the skilled worker by own labour.

5. The footwear cluster manifests a typical 'low-road', where the spawning of self-exploitative producers is the response to increased competition. The absence of appropriate institutions those provide collective indivisible inputs and the existence of asymmetric power relation between the trader and the small producer explains the low-road. The intervention of the state in the development of the leather industry in India was never very conducive to foster cooperative endeavour. Rather policies are tailored to favour large and medium enterprises while the scope for exploitation of the small subcontracting units as well as the informal labour market is retained.

6. In the case of footwear, the product life cycle is short, goods are demanded in smaller batches and frequency of variation in design largely determines the buoyancy of a product. Because of the design intensity of the goods, mechanization of production has a limited scope. In such a scenario economies of scale can be derived from increased division of labour, despite being mostly manual work and by reaping the benefits of bulk purchase of raw materials. Firms those are relatively large in Kolkata cluster started from a small scale of operation and grew horizontally, that is, the same operation is repeated in greater number employing increased groups of workers without any significant change in the technical composition of the production process. There is no sign of vertical integration as such and the firms perceive the problem of space as the major constraint of growth. Both the smaller and larger firms cater to the local/regional market and the owners having a limited vision because of their educational background lack the kind of entrepreneurship needed to leap forward. Rather the fragmented nature of the cluster helps in reducing the share of margin for the manufacturer and increases that for the traders. This perhaps explain why in Kolkata we do not find new big manufacturers after Bata, Elite and so on but we come across growth of brands such as Khadims and Sreeleathers who largely source goods from small producers and sell them across the country.

7. In the context of perceived stagnation and the low road in Kolkata public intervention is required not only to resolve market failures. The kind of intervention should be aimed at fostering cooperative endeavour that would release the potentials of small firms through the promotion of horizontal cooperation that helps neutralising advantages/disadvantages that emerge due to asymmetric power relations and dependence between parent/trader and subcontracting small firm. The moments of cooperation in a successful industrial cluster not only lie among firms of different size. Cooperation is needed in backward and forward linkages and an appropriate balance of labour welfare and profitability that pacifies conflicts between labour and capital.

8. Interventions through state policies related to leather industry in India were never conducive for a high road growth in SME clusters. The policies changed over time with the changing perceptions of export policy. Before the nineties the main plank of state policy was to enhance export by exploiting the ability to produce at a

lower cost and that suited with the policy of protecting small artisan firms. In more recent periods perceptions regarding exports changed where policies aimed at targeting high-valued segment of the global leather market. In order to reap benefits of scale economies in such segments the protection for small firms is withdrawn. However, keeping the competitive edge in exports through lower labour costs remains the overriding concern. The state policies related to the de-reservation of leather industry are tailored in favour of large and medium enterprises and at the same time provide them ample scope to exploit the pervasive informalisation of the labour market. This issue of allowing higher scale of operation through deregulation on the one hand and reaping the benefits of low wage through further informalisation on the other is the crux of the policies adhered in the context of leather industry. This might work well to an extent when we are targeted towards the mass market producing standardized products. But in order to respond to changing demand for design intensive goods, firms need to move towards higher value addition in which case more concern would be on quality of the product in place of becoming competitive by pushing down wage costs alone. In such case competition would be based more on the use of higher technology, higher value addition and the use of higher quality of raw materials instead of reducing costs in wages. This would in a way counterpoise the trends of self-exploitative fragmentation and induce consolidation to reap the benefits of scale advantage.

chapter **5**

Footwear Cluster in Agra

5.1 Introduction

Besides being a prominent place of historical significance Agra is well known for long as one of the major producers of leather shoes. The daily average output in Agra is estimated to be 2.5 lakh to 3 lakh pairs catering to both export and domestic market. The footwear cluster in this region supplies around 55 per cent of the domestic demand for shoes and accounts for 22 per cent of India's footwear exports. Around 40 per cent of the city's two million population is directly or indirectly involved in the production or sale of footwear. However the genesis of the cluster has its historical roots long back in the Mughal period. As the story goes, the historical city of Fatehpur Sikri was constructed by Mughal emperor Akbar beginning in 1570 and served as the empire's capital from 1571 until 1585. This city shared its imperial duties as a capital city with Agra, where a bulk of the arsenal, treasure hoards, and other reserves were kept at its Red Fort for security. During a crisis, the court, harem, and treasury could be removed to Agra, only 26 miles away, less than a day's march. During this period, artisans especially cobblers were brought in from different places to make shoes for the imperial army men and that precisely constituted the original core of the footwear cluster in Agra. The number of artisans grew over time and used to sell their products in *Hing-Ki-Mandi* that in course of time emerged as the biggest shoe market in India. *Hing* is the spice that used to come from Afganisthan wrapped in leather and that leather were used by local artisans to make cheap low quality shoes. This possibly explains the weird link between spice and shoes in Agra and the market of spices gradually emerged as the market for shoes.

The next major change occurred in Agra after 1947. In India, Independence was accompanied by Partition and migration was forced upon to many who had to seek new places to settle and find out new occupations to live. Many of the Punjabis who earlier were staying in the territory of the present Pakistan moved out to Agra and entered into the business of shoes. This gave rise to a new division of labour. Muslims and *Jatavs* remained confined to production of shoes while the Punjabi traders with

their strength in finance gained prominence in the business. By this time Bata India Limited established their link with Agra introducing new technology in shoe making and trained local artisans so that they could source their products from this traditional hub. Although exports of shoes from Agra began in 1950 selling mostly to East African countries, major thrust of exports especially of uppers came from erstwhile Soviet Unoin. Boom in exports started in the early 1980s when a small group of Punjabi families organized in large enterprise groups secured bulk orders of shoes by dint of their connections in the establishment both in Delhi as well as in Moscow. Gradually exports increased and instead of remaining limited only to Soviet Union producers of Agra also succeeded in making some inroads to the lowest segment of the footwear market in Europe. State Trading Corporation played a pivotal role in this regard and the government also encouraged imports of machines from Germany so that firms acquire the capabilities to meet the needs of foreign buyers. On the other hand since there happened to be large number of foundries in Agra, machines imported was gradually substituted by domestic machines and some of the last factories came up simultaneously. The export spree continued till early 1990s after which most of the exporting units were completely out of grids because of the debacle and disintegration of Russia. There emerged the new challenge of looking for new markets and surviving by channeling exports to other parts of the world. In this new context many of the footwear producers in Agra succeeded in attaining capacities and capabilities to export to European Union and South Africa and that makes Agra in any case an interesting site for studying dynamics of industrial clusters.

In this case study also we follow the sub-sector approach— basically looking at the various categories of firms involved in footwear making, their place in the cluster and also tracing the interlinkages between different categories of firms. The survey was carried out durin April 2009.

5.2 Composition of the Cluster

The footwear producers in Agra can be grouped under two broad categories, *viz*., the organized export units and the small medium unorganised enterprises those producing mostly for the domestic market. The geographical distribution of the units also reflects this dichotomy. Most of the exporting units are located on each side of the Agra-Mathura bye-pass road while those producing for the domestic market are

concentrated inside the city in and around Hing-Ki-Mandi area. According to an estimate of Council for Leather Exports there is around five thousand footwear producing units in Agra of which about 60 units are organized firms solely engaged in exports and the rest are targeted to domestic market. Reputed domestic brands such as Bata, Liberty, Sreeleathers, Khadims, Tata, Reliance and so on source footwear from Agra and as regard exports Clarks, Salamander, Reebok, Florsheim, Deichmann, Timberland, Tribur, Rover group and so on source shoes from Agra.

There are about ten large exporters in Agra whose scale of operation would be around one lakh pair per month employing more than 800 workers. Otherwise the average scale of operation of the rest of the exporters would be 40000 to 50000 pairs per month with an average employment ranging from 400 to 500 workers. The second group producing for the domestic market comprises of three layers: a. semi-mechanised units producing 4000 to 30000 pairs per month; b. small units producing 1000 to 4000 hand-made shoes per month; c. the largest segment comprising of 85 to 90 per cent of the units are tiny home-based units producing 150 to 1000 pairs per month. Besides the core producers of footwear there are producers and suppliers of lasts, all sorts of tools, leather board, cartons and other related accessories. There are nine mechanized last making units in Agra producing around 200 to 500 pairs of plastic lasts of international standard per day. Besides these, there are 20 to 30 small units producing wooden lasts mostly used by producers selling shoes in the domestic market. There are around 200 sole making units producing PU, PVC and TPR soles and the total capacity of these units would be 4 lakh pairs per day. In Agra there are suppliers of mould as well. About 100 units produce hand-made moulds and around 20 would be using CNC machines. Most shoes require insoles and there are 10 modern factories in Agra producing insoles. There are about 600 traders involved in the domestic trade of footwear. The traders used to deal in raw materials and finished products produced in Agra. There are a number of buildings in Hing-Ki-Mandi housing shops of footwear traders.

The tiny home based units are mainly concentrated in areas where people from the *Jatav* and Muslim community used to live. These are places such as Montola, Kajipara, Chipitola, Lohamandi and Jagdishpura. One can easily find how people from different religious community are geographically separated by a dividing road

but at the same time staying and transacting with each other over the ages. The shanty look is different from slums one can see in other parts of the country where people from the lower caste and especially those involved in producing leather goods used to stay precisely because it bears the marks of a historical legacy. There are old buildings might be of three hundred years of age, the dwellers of which are involved traditionally in shoe making in successive generations. As the number of household units kept increasing in the same premises the share of space declined but the number of units involved in producing footwear gradually increased. One important fact is that the number of own account enterprises is much less in Agra. And this is because complete shoes are difficult to be produced single handedly and without employing any hired labour. There are own account enterprises who involve unpaid family labour and produce shoe uppers and sell them separately.

5.3 Production Organization

Production of shoes in Agra is a traditional activity passed on to succeeding generations. But producing shoes did not remain same over the years. The basic stages of production are producing the uppers which includes cutting and stitching and then followed by operations such as lasting, pasting and finishing. Most of the firms produce men's and women's shoes and a small number specializes in producing children's shoes. Since one needs to offer much greater variations in colours and size in case of kids' shoes separate set up is required for producing children's shoes. There are a few firms engaged in the production of industrial boots mostly used in large public sector and private sector manufacturing, construction and power projects. However there is a marked difference in the production process in case of exporting units and that in those producing for the domestic markets. As regards raw materials all the firms can easily source what is required from the local dealers. Production of leather is not allowed within 50 kilometers radius around Taj Mahal in order to protect the heritage site from pollution. As a result leather in Agra mostly comes from other parts of the country and in some cases from abroad as well. Buffalo leather mostly produced in Kanpur is used to produce low quality men's shoes since this leather is not smooth enough to be used to produce high valued shoes. In that case goat-leather mostly produced in Chennai and cow-leather produced in Kolkata are largely used in Agra to produce different kinds of men's ladies' and children's shoes.

In some cases whenever the buyer specifies the kind of leather to be used it might be sourced from Italy, Poland or from China. The lasts, insoles and other components and accessories are easily available in Agra. Although some producers use insoles, synthetic upper materials and even fully stitched closed uppers imported from Italy, China, Taiwan, South Korea and Vietnam.

There are two major periods for production in domestic units, *viz*., August to October which is supposed to the festival season in India and the other period is from November to April during which most of the marriages take place. In the case of exporting units there are not much of seasonal fluctuations nevertheless exporters basically cater to the requirements of summer shoes. Those producing for the domestic market prepare samples for ensuing seasons during April to June. A relatively bigger unit on an average prepares 400 pairs of samples and for bigger units this may increase up to 1000 pairs. This is a kind of investment at the beginning of the season, the owner of a small footwear producer howsoever small in the scale of operation the unit might be, has to make in order to receive orders from the traders. The design intensity of footwear has increased over the years and there seems to be a marked change in the footwear market in our country since 2001 primarily because of the import of fashionable and cheap shoes from China. This is also the reason why the use of PVC lasts has increased and the frequency of changing lasts has increased as well. Most of the bigger units use to produce two to four designs per month and average use of last per unit in a year increased from one or two to 200 in the past two decades.

The exporting units organize production on the basis of detailed assembly line where each of the basic operations are chopped into smaller divisions of work entailing repetitive operations. Comparing the use of machines and technology between firms producing for the domestic market and those engaged in exports we find there is no remarkable difference. Indeed the organization of production in an export unit involves more detailed division of labour and increases fixed costs to some extent, nevertheless there is no large gap in technology between exporting units and those producing for the domestic market. Rather it is basically systemizing the on-going process and blown up to a higher scale with additional nodes of monitoring. In Agra one can find a number of exporters having certifications such as ISO-9001, ISO-

14001 and ISO-18000 producing more than 60000 pairs per month and with annual turnover of about 80 crores but even then the technology used is not far higher than what is used in medium sized firms. In an assembly line of a large exporting unit in Agra starting from cutting to finishing 80 to 100 workers are normally involved in the production of a pair of shoes. In some of the bigger units lasting, pasting and finishing can be done by the use of machines but cutting and stitching involved in shoe making has to be done manually. This precisely explains why the use of machines remains limited to the rest of the phases of production. Generally speaking there is no subcontracting relation between the big exporting units and the smaller firms engaged in producing for the domestic market. But sometimes if there happens to be pressure because of large orders, exporting firms outsource the stitching jobs to home-based units. This helps in managing additional demand for labour without taking responsibility of such labour throughout the year.

The capital intensity of the production process increased over the years. Setting up an assembly line at present value for making uppers and bottoms requires on an average Rs.10 lakhs and Rs. 30 lakhs respectively. The use of machines that gradually substituted labour increased over the years and the extent of such substitution however depends on the nature of production. On the other hand opportunities of outsourcing which is nothing but reducing labour costs helps firms to use the reserve pool of skilled labour. In any case the firms had faced increased competition since 1990s and in order to meet the design intensity required to remain buoyant at the export market there are firms who regularly employ designers from Brazil, Italy or France. Hence exporters in Agra who faced bad times after losing the export market in Russia succeeded in entering into European markets by increasing the design intensity of their products as well as by taking recourse to cost cutting arrangements. In regard to domestic market typical hand-made shoes with stitched vegetable tanned leather sole produced in Agra was famous at a time. With the increased use of machines the share of Agra in the domestic market for shoes gradually declined. At least in the lower end of the mass market moulded shoes produced with non-leather materials attained greater share because of its lower cost and durability. And the skilled artisans who used to make hand-made shoes are increasingly either losing their jobs or shifting to other modes of production of footwear.

5.4 Labour Process

The cluster is bestowed with a large pool of traditionally skilled labour, the skill being transferred across generations. Because the cluster evolved through a continuous process of expansion for reasons which are mostly endogenous we could find that the labour force engaged in the production is mostly local residents. Although in course of time people migrated from neighbouring districts and states gradually entered the labour force. On the other hand use of machines in a way increased the relative supply of labour to some extent. For instance one lasting machine replaces 20 to 30 workers in the labour process. The labour process in the shoe making unit is a team based activity. In case of large enterprises workers do specific jobs assigned to them in the assembly line and in a relatively smaller unit the job is done by a labour group that includes at least three artisans or skilled workers supported by two unskilled labour each. As the number of orders increases this labour group of nine people is multiplied as required.

The labour force in footwear producing jobs includes both home-based workers those are mostly self-employed artisans and also waged workers in the large exporting units. However the labour market is not segmented as it is in the case of product market. This implies that the laboring force is more or less free to choose between working in tiny home-based units as well as in large enterprises. And sometimes these two modes of employment are complimentary to each other. The person working as self-employed in small home-based units may not have work throughout the year and in some cases they deliberately choose to work in agriculture during sowing or harvesting seasons. Otherwise some of these workers move for waged work in large factories when could not eke out their living from their tiny home-based units. Hence, what seems interesting is that the choice to work as waged labour in Agra is not the first choice if someone has the opportunity to produce and sell in family owned home-based units. This is primarily because the income earned through wages in a factory net of the transaction cost involved in travelling as well as the commission to the labour contractor, would not be much higher to what is earned in a family unit. Second, the self-employed person enjoys a sense of independence and also draws a sense of pride in thinking himself as an owner or entrepreneur instead of a wage-worker in a factory. Hence, besides sociological reasons the economic explanation

would be the lack of necessary incentive to move out from self-employment to waged work. But this also has relation to the number of labour required in the exporting factories and the extent to which the exporting firms would also prefer to an arrangement where these tiny home-based units exist and to which jobs can be outsourced if required.

In the survey we come across various occupation categories in footwear industry related to different stages in the production process such as cutting, stitching, lasting, pasting, channelling and finishing. Wages in the smaller units producing for the domestic market are based on piece rate while in the exporting units skilled workers are employed on time wage and unskilled ones receive piece rated wages. The variation of wages for a worker is basically depending upon two broad categories: skilled and unskilled. In an average medium sized firm if an unskilled worker works for five years he could be considered as a skilled worker because of the on-the-job training he receives. Despite occupational variations the determination of wages is primarily based on a socially accepted minimum for the unskilled labour very similar to the concept of subsistence wage and an additional premium for skill to one who is a skilled labour. The computation of appropriate wage rate is derived from deciding the minimum earnings or income acceptable to the worker and also agreed to be paid by the employer and then dividing that by the number of pieces s/he on an average would be able to produce per day. Hence, more or less independent of the occupations and the productivity of the individual worker piece rate wages allow unskilled and skilled workers earn an average income. The process of wage formation also takes into account of the fact that the employers would not be able to provide work throughout the year and so the socially accepted wage should at least be enough to meet the minimum needs even if there is no work during lean period. In the factories it is claimed that the scheduled minimum wages for unskilled workers is paid to the new entrants and wages to skilled workers vary according to the importance of their jobs which perhaps imply that the skilled workers in large firms are paid efficiency wages. But the average hours of work in a day is generally 12 hours and the rate at which overtime wages are paid is much less than what is stipulated in labour laws. The average wages received by various categories of workers are shown in Table 5.1.

Considering all fluctuations in income the average monthly earnings of a skilled and unskilled worker in footwear industry in Agra is Rs.2500-4000 and Rs.1700-2000. Besides low wages the workers in a footwear unit have to face health hazards primarily because they use to work in a small room with adhesives that contains isocyanides.

Table 5.1
Average Range of Wages (Piece Rate) and Corresponding Daily Output by Occupational Categories in Firms Producing for the Domestic Market

Occupational Categories	*Range of Piece Rate Wages in Rs.*	*Average Range of Daily Output in Physical Units*
Cutting	3-4	65-70
Upper closing	7-12	30-35
Lasting	5-6	40-60
Pasting	5-7.5	40-50
Finishing	2-4	40-60

Source: Survey results

Most of the firms in Agra reported a scarcity of skilled labour especially those supposed to do stitching jobs. Problems in the supply of skilled labour is mostly felt by exporters because they have to maintain strict delivery schedules but even those producing for the domestic market anticipate a decline in the supply of skilled labour in the future. Most of them accounted this trend as an outcome of implementing the official ban on child labour. What they argue that skills are generated in the labour force through the traditional way of recruiting next generation as apprentice. The worker's child at an early age used to accompany his parents in the workshop and learn from them how to prepare shoes. This on the one hand reduced the cost of a helper by employing a child labour on the other hand the skill is reproduced with little or no cost. Once the child grows older s/he is no longer interested in doing jobs that fetch a little earning and at the same time in the traditional way of learning it requires lot of patience and docility that an adult would not be inclined to accept. Moreover the training institutes produce designers and leather technologists but they are not capable of supplying trained workers. As a result the supply of skilled workers is expected to be dried up in course of time. The question related to policy is on both ways: *a)* how to provide employment to those young entrants in the labour force who even if have attained some formal schooling, lack the required skills which they could attain earlier through patriarchic modes of training; *b)* how to reproduce the supply of skilled workers besides not allowing child labour to work in the small workshops. Because of

the lag in the supply of labour owners of factories in Agra are now encouraging women to enter in the labour force especially wives and relatives of existing workers. This would increase the income of the labour household on the one hand and on the other hand the owners would get at hand a docile workforce which they could not utilize earlier because of some social taboo carried over from the past that women would lose dignity if they go for work outside their homes.

Measuring the productivity of individual labour entails a complex process. Generally speaking if we go by a gross measure such as the physical units produced per day per worker the average comes to 3 pairs per day. But this productivity measure does not carry much sense because the same worker has different productivity depending on the difference in work arrangements. Normally a worker working in a factory has a greater productivity compared to a person working in a small workshop because in a factory the worker is involved in a repetitive job that in any case increases output per person. The use of some improved tools and machines also increases the productivity of the worker in a factory. But the issue that needs to be further probed is that do the same process of increased division of labour results in losing control of the production process and by way of which leads to deskilling the labour force or not.

Finally, as reported by the owners of large enterprises the share of labour in total costs amounts to be around 15 per cent in an average pair of shoe. To the owners, the only way to reduce per unit cost is to push down wages and everyone seems to be looking for a change in the labour laws that provide ample scope for such moves. Despite the fact that the owners talked much about liabilities that need to be borne on account of workers because of the labour laws we find gross under reporting of regular workers in ESI enrolment in order to reduce the burden of ESI. In the same vein it is told that workers are also discouraged to pay their contribution as proper treatment is not delivered by ESI hospitals. In regard to voluntary declaration of number of workers in the factories those come under ASI sector there is a large gap between actual employment and what is reported to the office of the Inspector of factories, Agra. At present the inspectors could not visit a factory on *suo moto* basis and hence the figures are not even updated at a regular interval. Hence the fact remains that the owners of large export units in Agra are primarily looking for reducing labour costs in order to be competitive in the export market.

5.5 Trader-Producer Relation and Institutions

Differentiation in the product market in Agra gives rise to different marketing channels. The product market comprises of two broad categories, *viz*. export and domestic market, nevertheless the domestic market is multilayered and different size categories of units are targeted to a specific layer of the product market. In other words tiny enterprises, semi-mechanised small units, bigger units producing for the domestic market and exporting firms all cater to different segments of the market and there seems to be little overlap between these segments. Arrangements of trading that evolved over the years also differ according to the market segments to which different categories of firms cater to.

The exporters normally sell their products through buying agents and sell to buyers located in Germany, Holland, France, Portugal, Italy, UK, Spain and in South Africa and Middle East. Very few firms export to Australia and USA. The trading pattern also has historical roots. Since most of these firms exported uppers or complete shoes to erstwhile USSR during the Cold War period there seems to be more acquaintance to European markets compared to US market for the exporters from Agra. Opportunities to increase the share in export market specific to leather precisely increased for the developing countries because of decline in leather industries in countries such as France and Italy due to environmental regulations. As a result, firms in Agra lost their market in Russia, but somehow managed to remain afloat in the low end of the European market. The average realization price of a pair of shoe in the export market ranges from 8$ to 16$. Otherwise some exporters sell winter boots and summer shoes in European market at a price range of 18-20 Euro and 4-5 Euros respectively. A few exporters sell directly to wholesalers abroad and could manage to fetch a higher realization price. As reported by exporters the major competition is with China and in regard to kids' footwear one has to compete with Portugal. One of the major advantages that the Chinese firms use to have is their relatively larger scale of operation because of which they could reduce per unit cost and sell at a competitive price at least at the low-medium segment of the footwear market.

The shoes produced for domestic market are sold to different parts of India. However, the most significant distinction between goods produced for exports and those for domestic market lies on the use of leather. The domestic market for footwear

gradually transformed in favour of non-leather shoes. The non-leather materials are imported from China and producers find fast innovation in the non-leather materials used to make shoes. This has obvious relations to costs. The price of an average shoe made in Agra using non-leather material would be of the range of Rs.700 to Rs.900 per pair and that of a shoe made up of leather would turn out to be not less than Rs. 1200. The price difference obviously impacts on the market causing larger share of demand for non-leather shoes.

But one striking fact that one would encounter easily is that the size of firms engaged in the production for the domestic market is much less than an average exporting firm. Besides other reasons one important cause is the strategic response to excise duties in U.P. Firms are exempted from excise duties in footwear till their annual turnover remains less than one crore and also would not have to pay sales taxes if the maximum retail price of a pair of shoe happens to be less than Rs. 300 per pair. In order to get the benefits offered to smaller scale of operation firms are inclined to remain restricted within the stipulated turnover limit. On the other hand firms also understate their selling price in order to avoid paying sales tax. The other issue related to the difference in the scale of operation between exporting unit and those selling to the domestic market emerges due to the huge difference in the transaction costs involved in selling a same quantity of output in two separate market. In the case of exports one can avoid expenditure on marketing because there exists one-to one correspondence between the seller and the producer for each act of sale. That is precisely because for exports the contract of sale occurs prior to the act of sale. On the other hand if a producer for the domestic market wants to sell his products to consumers directly at his own brand names it involves large amount of investment in setting up retail channels. This is precisely the reason why to firms thinking of increasing the scale of operation is closely related to the aspiration of becoming exporters. In this context it is reported that the life cycle of a product increases if a producer is linked to a retail chain that has many outlets. Because of a similar kind of reasoning the number of repeat orders also increases once the producer is linked to big retailers.

In the case of small producers the only way to sell their products is to take recourse to traders in Hing-Ki-Mandi. The producers prepare samples for the ensuing season and

if the trader approves some of the designs from the sample basket orders are placed at requisite quantity. In that case the producer has to invest to purchase raw materials and employ labour to prepare shoes as per order. At the same time other designs may be approved by some other trader and then also the producer has to prepare the shoes required. The goods are delivered in time but the payment differs for different traders. To the small producer it becomes difficult to supply shoes on credit because that requires a larger amount of working capital. In such situations to keep the business rolling *parchis* or hand-notes are issued by the trader confirming payment after two or three months. However one can easily en-cash these hand-notes immediately by paying a discount of 2 to 3 per cent on the face value of the hand note. This arrangement relieves the trader on the one hand of immediately paying the supply price to the trader on the other hand it helps the small producer run the business without requiring investment of a larger amount. The financer is the *munshi* who basically earns a margin between the rate at which the *parchi*-holder has to pay and the rate committed to investors in this financing business. Many of the local businessmen as well as professionals use to put their surplus in this financing business and earn interest income.

The tiny units in Agra are not able to enter into any kind of long term relation with the trader. This is primarily because they operate in the lowest segment of the domestic market selling shoes at a price say of Rs.70-100 per pair and so on and do not possess the amount of working capital required to sustain business for a period of two or three months without realizing the price of goods sold. As a result they depend on weekly markets or *hut* in places such as Tinkoniya and behind the Red Fort and sell their produce in the spot market. These producers produce on an average 24 to 42 pairs per day and sell them on Monday and Friday in local markets. Some of these producers also sell only uppers to traders coming from Delhi and Mathura and can eke out a living in an own account enterprise without hiring labour.

In Agra we come across several institutions involved in training and promoting the cluster such as Central Footwear Training Institute, Dayalbag Leather Working School, Council for Leather Exports and Ministry of Small and Medium Enterprises. There are associations of producers at different layers as well. Agra Footwear Manufacturers and Exporters Chamber is primarily an association of exporters, Agra

Shoe Manufacturers Association is the association representing relatively bigger units producing for the domestic market and Agra Juta Laghu Udyog Utpadak Samity is an association of small and tiny producers. The exporters' association, AFMEC organizes trade delegations and negotiates with the respective department of the government regarding issues related to the development of the cluster. Some of these are as follows: a) setting up of common facility centre and an exhibition centre of international standard b) Footwear Design and Development Institute should start branches in Agra not only to produce designers but managers as well; c) Before every consignment of export could be shipped one has to send samples to Gurgaon and Noida for testing. Similar kind of testing facilities should be made available at Agra that would save both time and money. The MSME department is actively engaged in the promotion of a cluster development programme basically focusing on the small producers. The small producers are issued some sort of identity cards that prevent harassment from the police while delivering products. The department is primarily engaged in developing trust among small enterprises and also succeeded in providing some marketing channels to small producers. However, the critical number is yet to be reached in order to generate a self-propelling growth of collective endeavour within the cluster.

The clusters of footwear producers in Agra and Kolkata have both similarities and differences. First, Kolkata footwear cluster is primarily known for Chappals that has a relatively smaller market than that of shoes which use to be of a larger variety and hence could be sold to a wider domestic market and abroad as well. Second, production of shoes requires greater division of labour than that in chappals and as a result of which the average size of firms are larger in Agra compared to those in Kolkata. Third the labour market in Kolkata is constituted by long term migrants that help reducing the reservation wage. In the case of Agra the workforce mostly comprises of local residents of a definite caste that somehow raises the bargaining strength of the workers. Fourth, although the kind of trader-producer relationship that exists both in Agra and Kolkata is more or less similar nevertheless it appears that the number of traders would be of much larger in proportion to producers in Agra compared to Kolkata. And as result of which the trader-producer relation would be more competitive in Agra than that in Kolkata. Fifth, what seems important to comprehend is that the existence of large exporting firms do not necessarily has much

impact upon the cluster as a whole rather there exists a clear disconnect between the large exporters and those producing for the domestic markets. There hardly exists any subcontracting relation between the large and smaller firms in Agra except some stitching jobs being outsourced to home-based units during high pressure of work or to meet strict delivery schedules. In other orders integrating with the global market has limited impact upon the small producers at large and opening up of markets alone could not trigger an autonomous process of growth that is often conceived of as a necessary outcome.

5.6 Summary and Conclusions

1. Agra is well known for long as one of the major producers of leather shoes. The daily average output in Agra is estimated to be 2.5 lakh to 3 lakh pairs. The footwear cluster in this region supplies around 55 per cent of the domestic demand for shoes and accounts for 22 per cent of India's footwear exports. Around 40 per cent of the city's two million population is directly or indirectly involved in the production or sale of footwear. According to an estimate of Council for Leather Exports there is around five thousand footwear producing units in Agra of which about 60 units are organized firms solely engaged in exports and the rest sell goods to domestic market.

2. Besides the export oriented units those producing for the domestic market comprises of three layers: a. semi-mechanised units producing 4000 to 30000 pairs per month; b. small units producing 1000 to 4000 hand-made shoes per month; c. the largest segment comprising of 85 to 90 per cent of the units are tiny home-based units producing 150 to 1000 pairs per month. Besides the core producers of footwear there are producers and suppliers of lasts, all sorts of tools, leather board, cartons and other related accessories. There are nine mechanized last making units in Agra producing around 200 to 500 pairs of plastic lasts of international standard per day. Besides these, there are 20 to 30 small units producing wooden lasts mostly used by producers selling shoes in the domestic market. There are around 200 sole making units producing PU, PVC and TPR soles and the total capacity of these units would be 4 lakh pairs per day. In Agra there are suppliers of mould as well. About 100 units produce hand-made moulds and around 20 would be using CNC machines. Most shoes require insoles and

there are 10 modern factories in Agra producing insoles. There are about 600 traders involved in the domestic trade of footwear. The traders used to deal both in raw materials and finished products produced in Agra.

3. In Agra one can find a number of exporters having certifications such as ISO-9001, ISO-14001 and ISO-18000 producing more than 60000 pairs per month and with annual turnover of about 80 crores. Comparing the use of machines and technology between firms producing for the domestic market and those engaged in exports we find that the organization of production in an export unit involves more detailed division of labour and higher fixed costs, nevertheless there is no large gap in technology between exporting units and those producing for the domestic market. Rather it is basically systemizing the on-going process and blown up to a higher scale with additional nodes of monitoring. In an assembly line of a large exporting unit in Agra starting from cutting to finishing 80 to 100 workers are normally involved in the production of a pair of shoes.

4. The number of own account enterprises is relatively less in Agra. And this is because complete shoes are difficult to be produced single handedly and without employing any hired labour. There are own account enterprises who involve unpaid family labour and produce shoe uppers and sell them separately. Generally speaking there is no subcontracting relation between the big exporting units and the smaller firms engaged in producing for the domestic market. But sometimes if there happens to be pressure because of large orders, exporting firms outsource the stitching jobs to home-based units. This helps in managing additional demand for labour without taking responsibility of such labour throughout the year.

5. The labour force in footwear producing jobs includes both home-based workers those are mostly self-employed artisans and also waged workers in the large exporting units. However the labour market is not segmented as it is in the case of product market. This implies that the laboring force is more or less free to choose between working in tiny home-based units as well as in large enterprises. And sometimes these two modes of employment are complimentary to each other. The choice to work as waged labour is not the first choice if someone has the opportunity to produce and sell in family owned home-based units. This is primarily because the income earned through wages in a factory net of the transaction cost involved in travelling as well as the commission to the labour

contractor, would not be much higher to what is earned in a family unit. Second, the self-employed person enjoys a sense of independence and also draws a sense of pride in thinking himself as an owner or entrepreneur instead of a wage-worker in a factory. Hence, besides sociological reasons the economic explanation would be the lack of necessary incentive to move out from self-employment to waged work.

6. Despite occupational variations the determination of wages is primarily based on a socially accepted minimum for the unskilled labour very similar to the concept of subsistence wage and an additional premium for skill to one who is a skilled labour. The computation of appropriate wage rate is derived from deciding the minimum earnings or income acceptable to the worker and also agreed to be paid by the employer and then dividing that by the number of pieces s/he on an average would be able to produce per day. Hence, more or less independent of the occupations and the productivity of the individual worker piece rate wages allow unskilled and skilled workers earn an average income.

7. Producers anticipate a decline in the supply of skilled labour in future. Most of them accounted this trend as an outcome of implementing the official ban on child labour. What they argue that skills are generated in the labour force through the traditional way of recruiting next generation as apprentice. The worker's child at an early age used to accompany his parents in the workshop and learn from them how to prepare shoes. This on the one hand reduced the cost of a helper by employing a child labour on the other hand the skill is reproduced with little or no cost. Once the child grows older s/he is no longer interested in doing jobs that fetch a little earning and at the same time in the traditional way of learning it requires lot of patience and docility that an adult would not be inclined to accept. Moreover the training institutes produce designers and leather technologists but they are not capable of supplying trained workers.

8. An arrangement of managing credit between trader and the small producer evolved as a well settled institution known as *parchi*. To the small producer it becomes difficult to supply shoes on credit because that requires a larger amount of working capital. In such situations to keep the business rolling *parchis* or hand-notes are issued by the trader confirming payment after two or three months. However one can easily en-cash these hand-notes immediately by paying a discount of 2 to 3 per cent

on the face value of the hand note. This arrangement relieves the trader on the one hand of immediately paying the supply price to the trader on the other hand it helps the small producer run the business without requiring investment of a larger amount. The financer is the *munshi* who basically earns a margin between the rate at which the *parchi*-holder has to pay and the rate committed to investors in this financing business.

9. The MSME department is actively engaged in the promotion of a cluster development programme basically focusing on the small producers. The small producers are issued some sort of identity cards that prevent harassment from the police while delivering products. The department is primarily engaged in developing trust among small enterprises and also succeeded in providing some marketing channels to small producers. However, the critical number is yet to be reached in order to generate a self-propelling growth of collective endeavour within the cluster.

10. The clusters of footwear producers in Agra and Kolkata have both similarities and differences. First, Kolkata footwear cluster is primarily known for Chappals that has a relatively smaller market than that of shoes which use to be of a larger variety and hence could be sold to a wider domestic market and abroad as well. Second, production of shoes requires greater division of labour than that in chappals and as a result of which the average size of firms are larger in Agra compared to those in Kolkata. Third, the labour market in Kolkata is constituted by long term migrants that help reducing the reservation wage. In the case of Agra the workforce mostly comprises of local residents of a definite caste that somehow raises the bargaining strength of the workers. Fourth, although the kind of trader-producer relationship that exists both in Agra and Kolkata is more or less similar nevertheless it appears that the number of traders would be of much larger in proportion to producers in Agra compared to Kolkata. And as result of which the trader-producer relation would be more competitive in Agra than that in Kolkata. Fifth, what seems important to comprehend is that the existence of large exporting firms do not necessarily has much impact upon the cluster as a whole rather there exists a clear disconnect between the large exporters and those producing for the domestic markets.

chapter **6**

Readymade Garments Producing Cluster in Tirupur

6.1 Introduction

Tirupur emerged as a small industrial town in erstwhile Coimbatore district in Tamil Nadu producing knitwear garments and a vibrant centre of activities related to knitwear. The town is 50 kms east of Coimbatore and located in the middle of the cotton belt in Tamil Nadu. As a result the region historically had high concentration of ginning, weaving and spinning mills and had long been a thriving centre of sale and processing of raw cotton (Sreenivasan,1984). The price of seed cotton for the state is fixed at Tirupur exchange only. The first knitwear unit in the town came up in the year 1925 and growth was incremental till 1930s. Strikes in knitting factories located in neighbouring towns of Salem and Madurai resulted in relocating firms at Tirupur. However, all these firms were composite mills, very different from what we find at present, a web of subcontracting relations between large, medium and small firms. The evolving of Tirupur as the 'T-shirt' town in India, high growth in output and employment, investments in technology and so on was never a result of a smooth continuous process rather there has been sharp rise in the growth of the cluster once it had been linked to the global market. The cluster was primarily confined to the domestic market producing simple white inner garments till the late 1970s. Export started in 1978, when Verona a garment importer from Italy came through dealers operating in Bombay to Tirupur in order to source white T-shirts. Gradually, importers from Europe recognized the potential of Tirupur and there was a surge in exports. The growth of the cluster was very much influenced by government's intervention in promoting exports during the quota regime. Providing cheap credits from public sector banks for technology and infrastructural development helped small firms to grow and produce according to international demand.

The sociology of knitwear entrepreneurs in Tirupur has attracted academic interest by several researchers. This is primarily because the rise of Tirupur cluster has been

somehow correlated to the rise of the 'gounder' caste in the region, although later on people from other castes also entered into the business. The gounders are basically agriculturalists of the south who are known for their progressive approach towards agriculture, their affinity to improved technology, changing crop pattern according to market demand and those take pride in toiling in the field along with hired labour with whom they use to maintain some familial relation. These peasants with their flexible mind set learned early on to tap the opportunities that emerge out of government policies. While doing agriculture these were the people who used facilities given by the state in accessing chemical fertilizers, water pumps and cooperative societies for ginning long-staple Cambodia cotton and these are also the people later on engaged in the production of knitwear, used credits provided by nationalised banks to improve technology and infrastructure.

The number of units located in Tirupur involved in garment related activities is not easy to assess. The government agencies, DIC and Inspector of factories grossly underestimate the number of units in Tirupur. However, associations such as Tirupur Export Association (TEA) and the South India Hosiery manufacturers' Association (SIHMA) those dealing with exporters and producers for the domestic market respectively help us to arrive at a reasonable assessment of the number of units.

According to TEA there are 1500 knitting units; 700 units related to dyeing and bleaching; 500 units involved in fabric printing; 300 units are involved in compacting and calendaring; 2500 units are assembling the final product and these are the exporters; around 250 units linked to embroidery activities and another 500 units deal in other accessories (Table 6.1). It is estimated that these units in all employ around three lakh people who come from 18 southern districts of Tamil Nadu and Kerela. The cluster produces gents T-shirts, sweat shirts, track suits, sportswear, ladies and children wear, undergarments, embellishments and embroidery items. There are very little number of units in Tirupur employing less than 50 workers and the median size in terms of employment are those employing 50 to 100 workers. In the aggregate 30 to 35 per cent of the produce of Tirupur are fashion garments and the rest can be considered as basic garments. Although the dynamics of Tirupur is centered around firms those are 100 per cent export oriented units, there are firms producing for the

domestic market and goods are sold at urban centres of Karnataka, Kerala, Andhra Pradesh, West Bengal and Delhi.

Table 6.1
Spread of Units in the Textile Value Chain in Tirupur Cluster

Value Chain Activities	*Number of units*
Garment Making	2500
Knitting Units	1500
Dyeing and Bleaching	700
Fabric Printing	500
Other Ancillary Units	500
Compacting and Calendaring	300
Embroidery	250
Total	**6250**

Source: "Export Figures", Tirupur Exporter Association (TEA)

Table 6.2 shows the growth of output in Tirupur since mid-1990s to 2004, a smooth upward trend in export share over the years. According to Multifibre Agreement import quotas were removed from 1st January, 2005 and firms in Tirupur are no longer having advantage of reserved market since then. What seems to be interesting is that knitwear exporters in Tirupur by the time has gained capabilities in competing in the global market and despite withdrawal of quotas Tirupur exported garments of Rs. 11,000 crores in 2006-07, the figure was only Rs. 10 crores in 1984.

Table 6.2
Share of Tirupur in Total Output of Garments in Quantity and Value

Year	*Total Garment Produced Qty. India (In lac pcs)*	*Total Knit-Garment Produced Qty. India (In lac pcs)*	*Total Garment Produced Value Tirupur (In Rs. crore)*	*Total Knit-Garment Produced Value Tirupur (in Rs. crore)*	*Share of Tirupur in Knit-garments (output)*	*Share of Tirupur in Knit-garment, (value)*
1996	11847	5377	2574	2574	47.87	38.16
1997	13014	6324	2983	2943	46.54	37.81
1998	13377	6820	3461	3385	49.63	37.79
1999	14044	7584	3764	3680	48.52	48.49
2000	15048	8227	4243	4104	49.88	37.30
2001	12643	7186	3831	3724	51.82	40.30
2002	12316	8527	3555	3448	40.44	41.78
2003	12425	8787	3804	3704	42.15	43.61
2004	12814	7376	4098	4004	54.28	45.79

Source: AEPC, Tirupur

The study on Tirupur knitwear cluster is based on case study approach along with samples chosen for detailed interview on the basis of stratified sampling. More or less exhaustive lists of exporters, knitting units, processing units, printers and dealers of accessories as well as that of buying agents are available in the website of TEA. We

visited 32 firms operating at different levels of the value chain *viz*., 10 exporters, 8 knitting units, 6 dyeing and bleaching units, 4 printing units, 4 compacting and calendaring unit as well as 4 buying agents. The survey was complemented by interviews of key persons in trade associations such as Tirupur Exporters' Association (TEA), South India Hosiery manufacturers' Association (SIHMA), Tirupur Exporters Knitwear Manufacturers' Association (TEKMA), Tirupur Industry Federation (TIF) as well as those of officials in major trade unions such as Centre of Indian Trade Unions (CITU) and All India Trade Union Congress (AITUC) operating in the industrial town.

The measure of output in terms of physical unit varies across firms according to their produce. In the case of garment exporters, printers and accessory producers such as collars and buttons it is measured in terms of pieces per day and those involved in conversion jobs such as knitting, dyeing and bleaching, compacting and calendaring measure their output in terms of tones per day. Hence it is very difficult to categorize units according to their scale of operation and relatively suitable measure for comparability would be employment size. Most of the units, that is, around 54.7 per cent of those surveyed in Tirupur reported employment size of more than 100 workers and 43.2 per cent of the firms employ more than 500 workers. However these figures do not in any case reflect the size composition of Tirupur cluster because for our survey we followed purposive sampling to understand the production organization and the firms chosen are biased towards bigger firms. In regard to size composition of the custer, safe conclusion would be that Tirupur cluster has larger share of firms employing more than fifty workers, that is it is not overwhelmed by tiny small enterprises.

6.2 Production Organization

Tirupur can be easily identified to the notion of industrial cluster that typifies an organic relationship between firms both horizontally and vertically is because of the fact of the dense network of production organization that exists within the region. The production of garments in the cluster is segmented into separate modules and firms participate in different portions of the value chain. Everywhere in the small town one can easily notice how activities revolve around the production and sale of knitwear garments. There are a large number of suppliers selling different grades of yarn and

these yarns are procured by producers to initiate the production process. Most of the garment producers or exporters generally confine to stages such as cutting stitching and finishing activities and get the prior stages done by specialized firms. The first stage can be termed as fabrication or knitting. The kind of knitting required depends on the design of the garment and that also determine the appropriate machine to be used. Summer garments are usually fabricated by single jersey machines and winter garments by double jersey knitting machines. Then depending on the length of the fabric required and yarn counts applied machines of different diameters and gauges are used. Hence, what is important is that a large variety of machines with various specifications should be available to produce various types of knitwear garments. This requirement itself creates the possibility of a large array of subcontracting relationship between firms where garment producers outsource the knitting activity to different knitting units in order to get the fabric done according to the specific requirement. And the knitting units also procure machines according to the demand of garment and cater to a one or two specific knitting job. One can easily find how firms in Tirupur are keen to acquire updated machines mostly imported from Japan (Shima,Seiki), Taiwan (Fukama, Smart, Pilon) Germany (Mayer and Cie, Terrot) U.K., Italy and Singapore. There are specialized jacquard machines for multicoloured embroidery and also for making specific designs for collars. The fabricators value their jobs according to conversion rates ranging from Rs. 8 to 12 per Kg. for a basic knitting job which might be Rs. 50/Kg. depending on the specificity of the job. Normally in a basic job 3000 kgs of yarn can be knitted into fabric per day but specific jobs can take longer conversion time and can produce 150 kgs in a day. If embroidery is required it is done by separate embroidery units who also work with sophisticated automatic machines with computerized programmes and they also stitch lebels if ordered.

The knitted fabric is then sent to processing units which include operations such as mercerization, dyeing and compacting. Dyeing can be of two types, yarn dyeing and fabric dyeing and the number of firms involved in the first kind is less than those in the latter. Dyeing is the most energy intensive segment in the production process that requires large amount of water as well as coal or fire wood. Some of the dye stuffs are imported but most of them are available to local traders who procure them from Mumbai. The dyeing units in Tirupur mostly use soft-flow machines and rolex dye and those require larger orders to meet the breakeven in terms of capacity utilization.

The dyeing units are facing problems at the moment in implementing pollution control norms. Only 19 firms have appropriate pollution control devices and they are allowed to operate six days in a week. Dyeing units are more capital intensive and among the several stages of jobs dyeing generally attracts the highest conversion rate that goes close to Rs. 70 per Kg. A related processing activity is compacting that includes drying or dehydrating, raising, stone washing, and callendaring. These processes are related to curing the fabric in a way such that shrinking can be kept to a tolerable limit. Machines used in these units are also imported either from U.K. or USA and can do the process in a highly technical way. The charges for compacting is generally Rs. 7 per kg, and those for drying, raising and stone washing are Rs. 5, 10 and Rs. 25 to 30 per Kg. respectively.

Printing is the next stage in the production process. This is done after the garments are cut according to specific designs by the exporting firm. In most of the cases printing job is outsourced but in some cases the exporting unit does the printing job inhouse. Usually designs along with the artwork and colour codes are sent to the exporting unit by the importing firm by an e-mail. These designs are copied by the printer and samples are made and sent to the exporter. Once approved orders are placed to the printing unit. The printing job in Tirupur mostly depend upon manually opearated or in some cases semi-automatic machines. Compared to other segments of operation, printing operation is less developed. However, in some exporting firms we also came across automatic printing machines imported from Germany that can lay down impressions of ten different colours at one go. Normally charges for printing ranges from Rs.3 per piece to Rs. 15 per piece depending on the use of colours.

The exporting unit is the parent firm that organizes the whole production process besides doing final stages as cutting, stitching, finishing and packaging. The participation of the exporting firm in the production process is not in any case fixed. There are large exporting units having their own knitting and processing units but such integrated units are few in number. Otherwise final stages are managed and closely monitored in a well structured assembly line in an exporting unit. Checking is done in each of the stages such as knitting, printing and so on but these are done by the units involved in the respective conversion job. In the final stage the exporter ensures that the quality of the good, look and cleanliness is maintained according to

the specification of the buyer and finally delivered at a stipulated time. Everyone who is involved in some production activity related to garment manufacturing in Tirupur aspires to be an exporter. This role does not require greater skill as such but it requires large investment greater capacity to take risks and some managerial acumen that evolves from experience in garment related jobs.

The production organization in Tirupur includes wide variety of subcontracting or outsourcing relationship between firms. However, it is quite different from the standard asymmetric relations assumed in parent-subcontracting relations or in putting out systems. True indeed, that the exporters are dominant actors in the production process but the nature of interdependence is a kind of mutual relation rather than acute dependence. The job-working as it is often referred to might be of three different types:

a. The production process is segmented in several parts such as knitting, dyeing, processing, printing and so on and then outsourced to units those are specialized for such activities. This may be termed as outsourcing or out-contracting in which case the exporter who coordinates the production process assign specific jobs to relatively smaller specialized units.
b. The second version can be termed as in-contracting which is separating parts of the production process those performed by separated dedicated sections of the same unit but run semi-autonomously by respective managers. This happens in larger units where there is fairly high level of integration. This is possibly another way of maneuvering books of accounts in such a way to show the sections of the same unit as independent SSI units and thus avail advantages therefrom.
c. In some cases the bigger firms integrate the production process for the sake of their control over the production. But in such situations the capacities created in different sections especially knitting and processing may not be exhausted by the production of the firm alone. Hence the exporting firm besides doing jobs for their own garments work for others as job-work in order to utilize the capacity in full.

The various mixtures of the above mentioned arrangements provide large amount of flexibility to both large and smaller firms. These arrangements work on the basis of

mutual benefits between large and small firms and help develop an organic relation within the firms in the cluster.

First, the larger firms can avoid large investments for integrated arrangements. In order to attain control over the production in view of maintaining the strict time frames as well as stipulated quality standards it is not always necessary to depend on vertically integrated firms. Out-contracting has evolved in such a way in Tirupur that it can easily deliver the advantages of integrated units. In most of the cases the owners of job-working units and those of the exporting firms belong to the same caste and kinship that in a way help developing a trust upon which they can mutually rely upon. In addition to that it is very difficult to build up capacities for different types of garments. This is precisely because only for the knitting section one would require large variations of machines to cater to different types of fabrics and as a result a significant possibility of unutilized capacity remains. In any case in garments ideal capacity utilization is around 75 per cent and in case of a fully integrated unit it is very difficult to attain such capacity utilization in all operations in a uniform manner.

Second, for the smaller firms the cost of entry to the industry declines because of the availability of subcontracting jobs. In many of the printing units and in some knitting units we found the owners themselves or their parents used to be workers in a garment unit. Entry to ownership starts from job-working and steps up to successful exporters in many of the cases. On the other hand since no job-worker is linked to a single parent firm rather works for a number of exporters the dependence is not much exploitative as it generally happens to be when there are few buyers and large number of sellers.

Finally, these relationships provide ample scope for flexibility in the production process and the cluster could not have to depend on rigid standardized production lines which suits well for mass production. At the same time it helps managing a large number of workers in a decentralized manner and get rid of the liabilities and responsibilities attached to large employment. Hence in some sense, it also helps reducing the costs of production through outsourcing a mode widely practiced in other industries as well.

6.3 Labour Process

Tirupur garments cluster employs large number of workers who migrate from 18 southern districts of Tamil Nadu and Kerala. In the recent past workers from other parts of India, *viz*. U.P. Bihar, Orissa, Manipur, Nagaland and also from Nepal used to come and work in Tirupur. Women workers are employed in large numbers in exporting units involving them in stitching, folding, checking and packaging jobs. In the knitting and embroidery workshops the share of female workers is less but in a large number of firms they do the checking job. The turnover of labour is high in Tirupur and there is no permanent worker. In most of the cases workers come from villages in neighbouring districts, get recruited as unskilled workers in any of the workshops and gradually increase their skill endowments through on the job training. They generally possess or have some ties to agricultural land in their native places and go to work in the field during sowing and harvesting seasons.

Payment of wages is generally on a weekly basis and in most of the units, as stated by owners' representatives it is paid on the basis of minimum wages as declared by the government of Tamil Nadu. However, this is only partially true because there use to be a complex procedure of maintaining records of wages and benefits received by the workers and in most of the cases it is doctored according to the legal liabilities binding upon. Regarding exporting units there is a convention of periodic wage agreement between trade unions and the exporters association in the presence of Joint Labour commissioner, Coimbatore and the last signed agreement decides wages of various grades of workers for the period 1st. January 2007 to 31st. December, 2010. There use to be four basic occupational grades in every unit in Tirupur, *viz*., helper, machine operator, supervisor and foreman. Vertical mobility is higher in knitting units but workers also choose to shift from working in knitting to dyeing and printing units because knitting job requires relatively hard work. Right to association and other trade union rights, though legally exists but at the enterprise level there is no trade union in Tirupur. However, at the district level at least at the wage negotiation process trade unions use to play a significant role. In regard to benefits ESI facilities and Provident Fund are provided to a core segment of workers and these facilities are available to not more than 20 per cent of the total workforce. In some cases such provisions are made for a small section of the workers in a unit because it becomes binding in other

issues related to expansion of capacity, new connection of electricity and other facilities stipulated for SSI units. In record shifts are always mentioned as eight hours of work but in actual terms normally it is twelve hours, that is one-and-a-half shift and beyond that although overtime is paid but it is not double wages as stipulated by labour laws.

The labour market is flexible in the sense that there is no serious obstacle to hire and fire. Moreover, because according to Labour Disputes Act, a worker should be made permanent if s/he works for 240 days in an uninterrupted manner every worker is fired for some or other reasons or reemployed in a way such that the legal binding of making the worker permanent might be avoided. On the other hand most of the employers reported a shortage of labour perceived in recent times and this seems to be true because even in periods of recession one can find advertisements of vacancies in local newspapers and billboards in lamp-posts in and around Tirupur. The possible reasons of such shortage of labour may be the following: a. After the implementation of NREGA and provisioning of rice at Rs.2 per Kg (a special programme run by the Tamil Nadu government) the opportunity cost of working as a migrant worker in garment units have increased and this may have also impacted upon the supply of workers; b. There are seasonal factors those influence the employment pattern in Tirupur. During the harvesting season every year there happens to be a shortage of labour in garment units because most of the workers go back to their villages to work for their family owned firms; c. Because of appreciation in rupee the export units are hardly hit and also because of the financial crisis in US and Europe both owners and workers expected a decline in orders in the near future. This prompted a section of workers not to return from their villages apprehending decline in job opportunities. As a result although there is decline in employment because of the recession that hit the domestic market but the apprehension of job loss might be higher than the actual level; d. Finally over the years there has been a surge of investment in technology in Tirupur. Most of the firms in different segmented of the production process installed new machines and this has gradually de-skilled the labour process. In order to run those machines a little bit of training is enough to make an unskilled person suitable to work. Thus owners are interested in investing in machines while employing labour at a low wage and that seems to be compatible with the deskilling process. However because of increased opportunities of work even for the unskilled workers, the claim

of wages to which they can agree upon to work has increased and there seems to be a shortage of labour in the going wage rate. On the top of that, the rents at Tirupur is on the rise and that obviously pushes the wage claims of workers.

There is at present much talk on social auditing in Tirupur exporting firms. Since the opening of the market in the 1980s and the phasing out of the Multi-Fibre Arrangement (MFA) between 1995 and 2005, there has been a surge of subcontracting relation across the globe in textile and garment industries that has radically drawn in severe price competition across the globe. On the other hand there has been increasing concern on labour standards in source countries especially from the global buyers and international retail chains. As a result in addition to company codes of conduct, several international voluntary labour standards have made inroads into Tiruppur and the most prevalent of which are the Social Accountability 8000 Standard (SA 8000) and the Worldwide Responsible Apparel Production (WRAP) Certification. These are generic standards conceived in tune with the core International Labour Organisation (ILO) labour standards to arrive upon a uniform labour standard across the globe. These standards include compliance with local labour laws, prohibition of child and forced labour, regulation of contract labour and working hours, non-discrimination as well as ensuring minimum wages, living wages, benefits and so on. SA 8000 was developed by Social Accountability International (SAI) and is primarily used by Europe-based chain stores and buyers. WRAP is an independent non-profit organisation based in the US, whose certification is mainly used by US-based companies. Compliance with certified standards is checked through a "third-party" auditing process that is assumed to be neutral in the process of evaluation and increases the authenticity of the certification itself. In Tiruppur, one can find a pretty good number of such agencies including branch of the Swiss international certification company Société Générale de Surveillance (SGS). There is no doubt of the fact that because of this external pressure use of child labour has been totally stopped in exporting units if not also in subcontracting workshops. However, this process of social auditing in any case has raised the entry barrier in export activities in the cluster. This is precisely because compliance of generic codes involves investments in additional physical infrastructures such as canteen, hostels, crèche and so on as well as in detailed documentation and administrative costs. Second, these issues become more important in the negotiation with the buyer even

after required level of quality has been achieved that is in a sense these provide additional leverage to external buyers in negotiation. Moreover none of these costs are borne by the buyer hence in a way the exporters are facing a market that demands low supply price but higher compliance to labour standards. The outcome however is something different. Notwithstanding the fact that the use of child labour has declined if not completely stopped in the cluster because of the fear of third party auditing, and at least in the very few big exporting units depending on the perception of the owner the labour norms are more or less maintained, compliance of these standards has a little impact upon the overall labour market of the cluster.

Most of the subcontracting workshops are actually out of the ambit of social auditing and hence flouting the labour laws has nothing to do with getting orders from the parent firm. And because for most of the exporters all the initial phase of knitting, dyeing, compacting as well as printing are outsourced these laws hardly affects the majority of the labour force. On the contrary, in order to accommodate the additional margin of cost on social auditing and given the fact that the seller is virtually operating in a buyers' market there is always a tendency to reduce labour cost, even though the share of which has declined in the total cost of production gradually over the years. In this view and also because of the paucity of land there are two kinds of responses on the side of the big exporters. Some are now situating their new plants in places far away from the town where they either get easy access to workers from nearby villages while in others provide hostels for workers who are long distance migrants and women workers. This provisioning of accommodation is also done in dyeing and processing units because the process of production is a continuous one and once the boiler is heated to produce steam several operations need to be done in one go and that requires an uninterrupted supply of labour. Hence what is implicit in these facts and what one can easily guess visiting the units that regulation on working hours, scheduled overtimes and so on are although maintained in books it has little relevance to the real life of the worker in Tirupur.

6.4 Export Market and Impact of Recession

The market for garments is increasingly becoming fashion intensive more too in European Union and the US those account for the largest share of consignment from Tirupur. According to TEA 55 per cent of the exports from Tirupur goes to EU, 35

per cent to US and the rest 10 per cent to Middle East, South America and Australia. Most of the leading international brands such as Nike, Cutter & Buck, Adidas, GAP, Tommy Hilfigure, Katzenberg, Vanhussain, Fila, Arrow and leading retail chain stores such as C&A, Wal Mart, Target, Mothers Care, H&M source garments regularly from Tirupur. Tirupur also supplied jerseys to last FIFA World Cup Football. The share of fashion garments in the aggregate sale is gradually on the rise although the larger share in the case of Tirupur is still the basic garments with an average realisation price in the range of 1.75 to 4 $ per garment and a fashion garment might be sold at 15 to 30 $ per garment depending upon the work involved. Besides quality of the fabric value addition largely depends on the embroidery work involved in the garment. The fashion watchers of Europe forecasts designs and those are picked up by buyers and orders are sent accordingly. Besides buyer driven innovations many owners or their representatives from Tirupur visit to fairs held at Italy, Germany and Turkey and study the emerging trends in the markets for garment in Europe. Fashions and colours change in Europe in every three months. The European market is more inclined towards smaller batches, greater variation and fashion intensity while the US market is for larger volumes and relatively less fashion intensity.

The future course of growth of Tirupur depends on how the cluster responds to changing demands in various segments of the export market vis-à-vis its competitors. Our survey tried to capture these aspects by interviewing relatively large exporters as well as a number of buying agents who operate in Tirupur. The issues were discussed in the context of the ongoing recession and the extent to which those affect the exports in the cluster. The exporters' association also drew attention to some of the infrastructural constraints and policy disadvantages those dampen the competitiveness of the cluster. On the basis of those inputs the following observations may be drawn:

First, despite the fact that the share of fashion garments in total turnover of sales from Tirupur is gradually increasing, nevertheless, most of the exporters survive on the basis of their sales in the basic segment. Export performance primarily depends upon costs, quality and strict compliance to delivery time. In the case of mass market it is more of costs and delivery time that matters assuming that a reasonable level of quality is maintained. In such a scenario economies of scale becomes important because higher scale of operation provides the opportunity to reduce per unit costs. In

this regard China and Bangladesh is far ahead of India. In Bangladesh the minimum scale of a garment unit involves 450 machines while in Tirupur an average garment unit works with only 25 to 30 machines. And this is possibly the reason that Tirupur bags only 2 per cent of the garments exported to US.

Second, Tirupur cannot entirely be dedicated to fashion garments because that involves higher risk and uncertainty and at the same time it is very difficult to go ahead of European firms in designs and fashions because of obvious reasons. Besides getting appropriate inputs such as fabric and colours and higher investments for more sophisticated machines and training workers it is the Western taste that largely conditions the market so in terms of innovating fashions we could only compete to become best replicators and hence the lag remains. What seems to be plausible in such a scenario is to carve out a medium stratum which would be more fashion-intensive and customized than the mass market and not so high-end such that volumes need not be sacrificed too much. This is the segment for which Tirupur can strive for in its future trajectory of growth depending on its ability to produce in smaller batches and with higher variation in designs and fashions. The flexibility of the cluster attained through a dense network of vertical as well as horizontal subcontracting is the key strength for such a growth path.

Third, in relatively more value-added segments the competitive advantage based on low labour cost gradually declines. Rather labour needs to be viewed as human capital in which investments need to be made both in terms of enhancing their technical capacities through training and also by materially enriching them through fair wage. This in any case requires an altogether different approach to the production process in general and to labour in specific. We may consider wages in the garment sector in different countries and see that reducing labour costs by reducing wages and depriving them of the legal benefits could not be a long term sustainable strategy to grow. In China average wages in the garment sector is 72 cents per hour, in India it is 51 cents per hour and in Bangladesh average wage comes to 36 cents per hour. However, China is no longer a competitor of India in the knitwear garment segment. Despite higher wages they could capture not only a larger segment of the mass market but at the same time could gradually shift their focus to much higher value added segments than to what Indian manufacturers target. India's competitors are mainly

Bangladesh, Vietnam, Combodia, Indonesia and so on and the biggest plank of competitiveness remained to be price.

Fourth, in special reference to Tirupur it has been pointed out by many exporters and buying agents that the greatest weakness in the production process lies in the processing and printing segments. There also seems to be a disproportionate development in technology in various parts of the production chain where dyeing, compacting and printing related works lag behind the rest of the operations. And because of these weaknesses garment producers from countries such as Pakistan, Honduras, Guatemala, Jordon and Mexico are moving forward much faster than those in India.

Fifth, there are also important infrastructural hindrances such as acute shortage in power supply in Tamil Nadu. The production cost increases because use of generators raises the power cost per unit from Rs. 4.70 per unit to Rs.11.50 per unit and the difference is obviously influenced by the rise in diesel price. Besides the simple escalation in energy costs power cuts interrupt the production process and affect the delivery schedules. Since in exports there use to be strict delivery schedules it needs to be met sometimes by sending goods by air that involves huge transport cost. It is also reported that effective rate of interest in India that need to be paid against loans from both public sector and private sector banks is around 1.5 point higher that what it use to be in China.

In this context it is also important to discuss how the exporting units in Tirupur faced the ongoing recession and how they responded. Since it is difficult and also would be too ambitious to draw some concrete conclusions on the basis of a survey of a limited scope but in any case some primary observations may be made those need to be tested by further research: Almost all of the exporters in Tirupur surveyed reported that they were hardly hit by rupee appreciation in 2008 and many firms claimed that as a result of which large number of importers shifted to Bangladesh permanently. However in the context of recession the effect is felt in a more roundabout way. Many firms claimed that there is no significant decline in orders and that is because Tirupur basically produces T-shirts for the low segment of the global garment market and hence this segment of near necessaries have not yet felt the heat of demand deficiency in that way. But the effect can be felt in some other ways as follows: a. Jobs related to

high valued garments involving embroidery or calendaring is heavily affected; b. In some cases purchases were finally less than the orders given initially that is a drastic decline in orders after goods being made; c. there is delayed payment which increases the cost of capital; d. In view of reducing inventory the importers are putting pressure to reduce lead time from 100 days to 45 days; e. Drying out of credit in most of the importing countries have hardly left some buyers who could do business without depending on bank credits and as a result orders declined for Tirupur not primarily because of a fall in demand for garments but because of credit crunch created in the course of the financial crisis.

6.5 Institutions and Collective Action

Studies on industrial clusters since Marshall (1948) have always referred to the gains that emerge because of the existence of external economics in such clusters. However, usual notions of economic theory suggest that external economies can never be a deliberate creation of an individual firm. It is always incidental and involuntary, because in these situations economic agents cannot capture in the price of their product, all the benefits of their investment. Schmitz (1999) goes beyond the conventional perception of external economies and recognises an element of consciously pursued joint action as the sufficient condition for a growing cluster. The study of the dynamic relationships among interlinked enterprises recognises the fact, that clustering enterprises are both recipients and providers of external economies and underinvestment ceases to be the necessary or dominant outcome. Hence, collective efficiency, that characterises successful clusters, is the outcome of both the incidental external effects of individual action and consciously pursued joint action.

It is perhaps not easy to define a large variety of institutions in a precise and encompassing manner. However, there are two different perspectives by which the fundamental notion of relationship among economic agents are analysed. First, there is the behavioral approach where institutions are viewed as complexes of norms, which through accepted modes of sanctions govern individual actions for collectively valued purposes. The other one is the perspective of rules, where institutions are rules of a society or organisation that facilitate coordination among people and increases predictability in economic interactions. The difference between the two paradigms is primarily due to the focus on the nature of relationships that are considered relevant to

economic analysis. However, the study on institutions, which is confined to only those transactions across a 'technologically separable interface', usually ignores social institutions as reference of analysis and heavily depends upon the deliberative rationalised action of the economic agent (Williamson 2000,2002) . The other school, which includes cultural, social and cognitive processes in the analysis of institutions, proposes temporal equivalence or precedence of 'settled habits' over rational action.

Nalbi and Nugent (1989) have elaborately discussed the concepts, controversies and the themes of institutions. Institutions define some rules and constraints that are accepted as common perceptions and help to govern relations among individuals. It also generates predictability reducing uncertainties, which is the goal of the real world. The study on both institutions and organisations is built on the analysis of perpetual cooperation. When sustained cooperation among interactants gives rise to behavioural regularities such as norms, conventions, customs, etc that condition the cooperative conduct of individuals. Why this joint action succeeds in some cases while for others it fails? This question draws our attention to another theme of institutional economics that is related to collective action. Sengupta (2001) proposes a model of adaptive learning, that is cooperation is self-organising when the proportion of cooperators in a population reaches a threshold limit, while below that defection is cumulative. However, this threshold limit can be lowered by a facilitating agent. This facilitator pursues a policy of monitoring or exclusions and creates an environment conducive to collective action. Sustained cooperation gives rise to social regularities like norms, conventions or customs, which are gradually turned into institutional regularity. These institutions define role structures and the individual is more a role player than a 'rational' individual in the usual sense.

Hence the performance and dynamic adaptability of a cluster largely depends upon how firms engage themselves into collective action and create a dense network of institutional norms those increase the predictability of future transactions. In Tirupur one can easily find the culture of such associational voice in different levels of the production process. There are about 22 associations involved in Tirupur who represent producers and traders at varying degrees. Besides associations of exporters such as TEA there are associations representing knitting units, printers, dyers, compacting and calendaring units as well as of yarn merchants, collar stitching units,

kaza button owners and so on. There are around six trade unions active in the town, *viz*., CITU, AITUC, INTUC, MLF, LPF and ATP.

The associations participate in a number of negotiating activities. These include settlement of wages and bonus, labour dispute conciliation, organizing trainings for workers and merchandise personnel and also running arbitration councils to resolve all kinds of trade related disputes. However, Tirupur Exporters Association is far ahead of other associations in terms of initiating join action and influencing government policies related to knitwear garments. TEA is the key actor in negotiating with the government to start new industrial sites such as Tirupur Export Knitwear Complex and Netaji Apparel Park in New Tirupur, Inland Container Depot, a dry port and a Trade Fair Complex about 12 Kms away from the town. TEA also has started a fashion designing course in collaboration with National Institute of Fashion Technology. There are also customized courses run by SIHMA and Tirupur Industry Federation. Textiles Committee is the other important government organization that plays a nodal role in promoting smaller firms. They organize training programmes related to designing, production technologies, resource management and marketing. They also host a job portal providing information about vacancies in and around Tirupur. One of the innovative plans of Textile Committee in collaboration with Tirupur Industry Federation is to start a portal for subcontracting exchange through virtual integration that would provide updated information about what and how much of the jobs are offered to be outsourced and subcontracting units may bid prices accordingly to receive the orders. Hence, this would be an open kind of platform where exporters and subcontracting firms would negotiate and decide about sharing jobs with their respective capacities.

There is another dimension to the institutional dynamics within the cluster. Besides associations, trade unions and public agencies those facilitate contract enforcement; there is a thick network within owners depending on familial and caste ties. New units are often financially and technically supported by owners of older firms who are somehow related to the new entrepreneur. And in many cases exporters encourage persons in their family to start a firm that could cater to the outsourced jobs of the parent unit. Hence trust in transactions is largely drawn from family relations and those facilitate predictability and reliability of transactions. However these caste and

familial relations were also used to control the labour force but these moments of control are gradually dying out since the sociological composition of the labour has undergone a change over the years. In any case these relations in Tirupur never did overwhelm the competitive considerations and professional norms of business but it did help in reducing transaction costs and contractual arrangements.

6.6 Summary and Conclusions

1. Tirupur emerged as a small industrial town in erstwhile Coimbatore district in Tamil Nadu producing knitwear garments and a vibrant centre of activities related to knitwear. The evolving of Tirupur as the 'T-shirt' town in India, high growth in output and employment, investments in technology and so on was never a result of a smooth continuous process rather there has been sharp rise in the growth of the cluster once it had been linked to the global market. The cluster was primarily confined to the domestic market producing simple white inner garments till the late 1970s. Export started in 1978, when Verona a garment importer from Italy came through dealers operating in Bombay to Tirupur in order to source white T-shirts. Gradually, importers from Europe recognized the potential of Tirupur and there was a surge in exports.

2. According to TEA there are 1500 knitting units; 700 units related to dyeing and bleaching; 500 units involved in fabric printing; 300 units are involved in compacting and calendaring; 2500 units are assembling the final product and these are the exporters; around 250 units linked to embroidery activities and another 500 units deal in other accessories. It is estimated that these units in all employ around three lakh people who come from 18 southern districts of Tamil Nadu and Kerala. The cluster produces gents T-shirts, sweat shirts, track suits, sportswear, ladies and children wear, undergarments, embellishments and embroidery items. There are very little number of units in Tirupur employing less than 50 workers and the median size in terms of employment are those employing 50 to 100 workers. In the aggregate 30 to 35 per cent of the produce of Tirupur are fashion garments and the rest can be considered as basic garments.

3. Most of the garment producers or exporters generally confine to stages such as cutting stitching and finishing activities and get the prior stages done by specialized firms. The first stage can be termed as fabrication or knitting. The kind

of knitting required depends on the design of the garment and that also determine the appropriate machine to be used. Summer garments are usually fabricated by single jersey machines and winter garments by double jersey knitting machines. Then depending on the length of the fabric required and yarn counts applied machines of different diameters and gauges are used. Hence, what is important is that a large variety of machines with various specifications should be available to produce various types of knitwear garments. This requirement itself creates the possibility of a large array of subcontracting relationship between firms where garment producers outsource the knitting activity to different knitting units in order to get the fabric done according to the specific requirement.

4. The knitted fabric is then sent to processing units which include operations such as mercerization, dyeing and compacting. A related processing activity is compacting that includes drying or dehydrating, raising, stone washing, and calendaring. These processes are related to curing the fabric in a way such that shrinking can be kept to a tolerable limit. The printing job in Tirupur mostly depend upon manually operated or in some cases semi-automatic machines. Compared to other segments of operation, printing operation is less developed. However, in some exporting firms we also came across automatic printing machines imported from Germany that can lay down impressions of ten different colours at one go. The participation of the exporting firm in the production process is not in any case fixed. There are large exporting units having their own knitting and processing units but such integrated units are few in number. Otherwise final stages are managed and closely monitored in a well structured assembly line in an exporting unit.

5. The production organization in Tirupur includes wide variety of subcontracting or outsourcing relationship between firms. The job-working as it is often referred to might be of three different types: a) This may be termed as outsourcing or out-contracting in which case the exporter who coordinates the production process assign specific jobs to relatively smaller specialized units; b) The second version can be termed as in-contracting which is separating parts of the production process those performed by separated dedicated sections of the same unit but run semi-autonomously by respective managers. This happens in larger units where there is fairly high level of integration; c) In some cases the bigger firms integrate the

production process for the sake of their control over the production. But in such situations the capacities created in different sections especially knitting and processing may not be exhausted by the production of the firm alone. Hence the exporting firm besides doing jobs for their own garments work for others as job-work in order to utilize the capacity in full.

6. First, the larger firms can avoid large investments for integrated arrangements. In order to attain control over the production in view of maintaining the strict time frames as well as stipulated quality standards it is not always necessary to depend on vertically integrated firms. Out-contracting has evolved in such a way in Tirupur that it can easily deliver the advantages of integrated units. Second, for the smaller firms the cost of entry to the industry declines because of the availability of subcontracting jobs. In many of the printing units and in some knitting units we found the owners themselves or their parents used to be workers in a garment unit. Finally, these relationships provide ample scope for flexibility in the production process and the cluster could not have to depend on rigid standardized production lines which suits well for mass production. At the same time it helps managing a large number of workers in a decentralized manner and get rid of the liabilities and responsibilities attached to large employment.

7. Tirupur garments cluster employs large number of workers who migrate from 18 southern districts of Tamil Nadu and Kerala. In the recent past workers from other parts of India, *viz*. U.P. Bihar, Orissa, Manipur, Nagaland and also from Nepal used to come and work in Tirupur. Women workers are employed in large numbers in exporting units involving them in stitching, folding, checking and packaging jobs. There use to be four basic occupational grades in every unit in Tirupur, *viz*., helper, machine operator, supervisor and foreman. In record shifts are always mentioned as eight hours of work but in actual terms normally it is twelve hours, that is one-and-a-half shift and beyond that although overtime is paid but it is not double wages as stipulated by labour laws.

8. On the other hand most of the employers reported a shortage of labour perceived in recent times and this seems to be true because even in periods of recession one can find advertisements of vacancies in local newspapers and billboards in lamp-posts in and around Tirupur. The possible reasons of such shortage of labour might be the following: a. After the implementation of NREGA and provisioning

of rice at Rs.2 per Kg (a special programme run by the Tamil Nadu government) the opportunity cost of working as a migrant worker in garment units have increased and this may have also impacted upon the supply of workers; b. There are seasonal factors those influence the employment pattern in Tirupur. During the harvesting season every year there happens to be a shortage of labour in garment units because most of the workers go back to their villages to work for their family owned firms; c. Because of appreciation in rupee the export units are hardly hit and also because of the financial crisis in US and Europe both owners and workers expected a decline in orders in the near future. This prompted a section of workers not to return from their villages apprehending decline in job opportunities. As a result although there is decline in employment because of the recession that hit the domestic market but the apprehension of job loss might be higher than the actual level; d. Finally over the years there has been a surge of investment in technology in Tirupur. Owners are interested in investing in machines while employing labour at a low wage and that seems to be compatible with the deskilling process. However because of increased opportunities of work even for the unskilled workers, the claim of wages to which they can agree upon to work has increased and there seems to be a shortage of labour in the going wage rate. On the top of that, the rents at Tirupur is on the rise and that obviously pushes the wage claims of workers.

9. The process of social auditing imposed by importers has raised the entry barrier in export activities in the cluster. This is precisely because compliance of generic codes involves investments in additional physical infrastructures such as canteen, hostels, crèche and so on as well as in detailed documentation and administrative costs. Second, these issues become more important in the negotiation with the buyer even after required level of quality has been achieved that is in a sense these provide additional leverage to external buyers in negotiation. Moreover none of these costs are borne by the buyer hence in a way the exporters are facing a market that demands low supply price but higher compliance to labour standards. However most of the subcontracting workshops are actually out of the ambit of social auditing and these laws hardly affects the majority of the labour force. On the contrary, in order to accommodate the additional margin of cost on social auditing and given the fact that the seller is virtually operating in a buyers' market

there is always a tendency to reduce labour cost, even though the share of which has declined in the total cost of production gradually over the years. In this view and also because of the paucity of land there are two kinds of responses on the side of the big exporters. Some are now situating their new plants in places far away from the town where they either get easy access to workers from nearby villages while in others provide hostels for workers who are long distance migrants and women workers.

10. The future course of growth of Tirupur depends on how the cluster responds to changing demands in various segments of the export market vis-à-vis its competitors. Export performance primarily depends upon costs, quality and strict compliance to delivery time. In the case of mass market it is more of costs and delivery time that matters assuming that a reasonable level of quality is maintained. In such a scenario economies of scale becomes important because higher scale of operation provides the opportunity to reduce per unit costs. In this regard China and Bangladesh is far ahead of India. Second, Tirupur cannot entirely be dedicated to fashion garments because that involves higher risk and uncertainty and at the same time it is very difficult to go ahead of European firms in designs and fashions because of obvious reasons. Third, in relatively more value-added segments the competitive advantage based on low labour cost gradually declines. Rather labour needs to be viewed as human capital in which investments need to be made both in terms of enhancing their technical capacities through training and also by materially enriching them through fair wage. This in any case requires an altogether different approach to the production process in general and to labour in specific. Fourth, in special reference to Tirupur it has been pointed out by many exporters and buying agents that the greatest weakness in the production process seems to be a disproportionate development in technology in various parts of the production chain where dyeing, compacting and printing related works lag behind the rest of the operations. Fifth, there are also important infrastructural hindrances such as acute shortage in power supply in Tamil Nadu. It is also reported that effective rate of interest in India that need to be paid against loans from both public sector and private sector banks is around 1.5 point higher that what it use to be in China.

11. Almost all of the exporters in Tirupur surveyed reported that they were hardly hit by rupee appreciation in 2008 and many firms claimed that as a result of which large number of importers shifted to Bangladesh permanently. However, the current recession has impacted upon Tirupur in a more roundabout way. Many firms claimed that there is no significant decline in orders and that is because Tirupur basically produces T-shirts for the low segment of the global garment market and hence this segment of near necessaries have not yet felt the heat of demand deficiency in that way. But the effect can be felt in some other ways as follows: a. Jobs related to high valued garments involving embroidery or calendaring is heavily affected; b. In some cases purchases were finally less than the orders given initially that is a drastic decline in orders after goods being made; c. there is delayed payment which increases the cost of capital; d. In view of reducing inventory the importers are putting pressure to reduce lead time from 100 days to 45 days; e. Drying out of credit in most of the importing countries have hardly left some buyers who could do business without depending on bank credits and as a result orders declined for Tirupur not primarily because of a fall in demand for garments but because of credit crunch created in the course of the financial crisis.

12. Performance and dynamic adaptability of a cluster largely depends upon how firms engage themselves into collective action and create a dense network of institutional norms those increase the predictability of future transactions. In Tirupur one can easily find the culture of such associational voice in different levels of the production process. There are about 22 associations involved in Tirupur who represent producers and traders at varying degrees. Besides associations of exporters such as TEA there are associations representing knitting units, printers, dyers, compacting and calendaring units as well as of yarn merchants, collar stitching units, kaza button owners and so on. There are around six trade unions active in the town, *viz*., CITU, AITUC, INTUC, MLF, LPF and ATP.

chapter 7
Garments Producing Cluster in NCR

7.1 Introduction

Since mid-eighties National Capital Region that includes Delhi, Noida and Gurgaon has emerged as the major site for production and exports of readymade garments. Production for the domestic market traces long back since Delhi housed a number of large textile mills. Earlier most of the garment units were concentrated in and around Okhla, Karol Bagh and Gandhinagar but gradually because of civic regulations industrial units were not allowed to do business within residential areas. As a result of which garment units along with other industrial activities moved away from Delhi to newer industrial sites of Noida and Gurgaon. Besides regulatory reasons there had been a major change in the scale and structure of garments industry primarily because of phasing out of the quota system supported by the Multifibre Arrangement.

Indian garment manufacturers had to face stiff competition in order to survive in the global market. Undoubtedly there had been a shift in the geography of production of garments in favour of the developing countries. The shift occurred primarily because of dramatic reduction in transport and communication costs over the past three decades that made developing world as the more advantageous location for labour intensive industries. The large gap in unit costs primarily because of the huge gap in wage costs made countries such as China, India, Bangladesh, Vietnam, Indonesia, Combodia and so on preferred sites compared to Italy, Spain or the USA where wages use to be much higher than the developing countries. The other issue related to increase in the share of exports of readymade garments from the developing countries is because of increased possibility of splitting the whole production process into smaller parts, simultaneously producing them in different parts of the world. A complementary trend was a gradual shift from mass production to producing in smaller batches with multiple styles. These changes in a way worked in favour of developing countries where there use to be relative abundance of cheap labour and production of garments moved to developing countries in a big way in the past three

decades. As a result competition within developing countries increased and in place of assured markets through quota firms had to acquire greater capabilities to remain competitive in the global market.

The global outcome is explained by notions of new international division of labour where network coordination facilitated and monitored by TNCs defines the new contours of economic geography. Developing countries participate in global value chains where values are added in the production and sale of commodities at different phases and in different places those might be differentiated by thousands of miles away from each other. The relative importance of stakeholders in the value chain characterizes the nature of the value chain. The apparel industry is essentially a buyer-driven value chain. In this kind of arrangement large retailers, brand-name marketers, and trading companies play the key role in setting up decentralized production networks in a variety of exporting countries, typically located in the third world. The firms located in developing countries where the average wage level is relatively low are those who perform the major share in the production process. The brand-name company or a large retailer that designs and orders the goods supplies the specifications. In buyer-driven companies the main leverage is exercised by retailers and brand-name merchandisers at the marketing and retailing end of the chain. The essence of buyer-driven-chains is the separation of physical production activity from the design and marketing stages. The companies constituting the buyer driven chains are “manufacturers without factories”.

The governments in developing countries also framed policies those conducive to participate in the global value chains. In India besides Cash Compensatory Support and Duty drawback the incentive to exporting garments amounted to be more than 40 per cent. Because of the high rate of profit that an entrepreneur could earn in exporting garments during the mid-eighties there was a surge in setting up garment units during that period. Investments and finances poured in and many new garment producing units as well as extensions of earlier firms came up in Noida, Gurgaon area along with those which were relocated from Delhi. Large amount of money earned from other sources those might be accounted or unaccounted entered into the business of producing garments, although, they might not be involved in the production of garments in the past. This also resulted in the decline of dominance of fabricators in

the garment industry and in place of those, new entrepreneurs who were traditionally not into this business gained prominence in the export activities.

The garment units in NCR region are largely concentrated at Noida Sector 6, 10, 57, 58, 59 and Hosiery Complex at Noida Phase–II; Udyog Bihar Phase I to VI in Gurgaon and Manesar. In these areas samples of 26 units are chosen representing variations in the type of garment that is knitted or woven. In NCR there is not much variation in size categories in garment units and this is primarily because firms were set up at plots having stipulated size defined by the respective state governments.

7.2 Production Organization

Production of garments in NCR includes a process of arranging raw materials and intermediate products from different parts of the country and rendering the core activities such as cutting, stitching and finishing in-house. The knit fabric used by firms in NCR come from Ludhiana, yarn-dyed fabrics are sourced from Chennai while cotton cloth are produced at Delhi. Dyeing and printing jobs are largely done by firms located at Sahibabad and Faridabad and sometimes firms get polyester printing done from specialized units located at Ahmedabad and Surat. Printing of tags, stickers and barcodes required for garments are also produced in the same cluster and there are some specialized embroidery units doing job work for the garments unit located nearby. Firms in Delhi, Noida and Gurgaon mostly produce ladies' and kids' woven garments. However, production of knitwear garments is on the rise because of the general trend throughout the world. The use of knit-wears increased firstly because of changes in climate and extended summer due to global warming and secondly because of cultural change that allows a shift towards casual wears. On the other hand one may find in Noida and Gurgaon a few firms specializing in the production of home furnishing, the demand for which increased in European countries over the years.

Firms in NCR are largely exporting units those came up during the period 2000-2003. These are firms either relocated from Delhi, new start-ups or extended and multiple plant of an existing unit. In NCR one can easily find several cases where the single owner owns 3 to 8 similar sized firms located in the same area as separate legal entities. This is perhaps also the reason why the firms did not grow in terms of

employment and output over the years. Because of legal restrictions the expansion of firms got manifested in horizontal expansion through multiple firms rather than vertical integration reflected through expansion in size. Firms reported employment of 250 to 450 workers on an average although there are firms of larger size employing 1500 to 6000 workers considering all its subsidiaries. There are a few firms engaged in both export and producing or doing job work for the domestic market.

Production of garments is organized by the following phases: First, samples are produced by firms and the approved designs are set for production. Patterns of those designs are made by computerized machines and then layers of fabric are made and cut according to the design. Tailors with imported sewing machines do the required tailoring job thereafter and this phase may involve a number of sub-phases. There is a lot of supervision involved in this phase where the master tailors look after the sewing job. Then there is a phase of thread cutting and trimming which smoothens the garment and reduces extra threads. The produced garments are then compacted through ironing and undergoes through a phase of checking and alteration if required. The final product is then packed and made ready for delivery.

In most of the exporting units the production process is organized in an assembly line that is, the production of the whole garment is broken up to a number of phases and detailed sub-phases in which several categories of labour are employed. The length of the assembly line in terms of activities involved is somehow directly related to the number of machines involved as well as the complexity of the garment produced. The length of the production chain varies from those involving 12 to 13 people and in large factories especially in the case of making trousers this may be involving around 100 to even 140 people. The increased division of labour although increases the productivity of labour but this also depends on the size of orders of specific designs. If the orders of specific designs are small relative to the production chain or the length of the assembly line optimal productivity of the labour would not be reached. This is because productivity through division of labour increases primarily due to increased specialization of work that follows from use of repetitive work. However if the size of orders are small there is little scope for repetition and hence the labour productivity could not reach the optimum possible level what it could if the orders were large. This possibly explains the fact why labour productivity in firms producing for the domestic

market is relatively low compared to those in exporting units. The size of orders for a specific design to be produced for the domestic market is generally less than those for exports. In a number of firms time-motion study is done for a single production cycle and production is monitored in reference to the benchmarks set for each step. One can easily notice that many of the retired defense personnel are appointed in garment firms in order to imbue strict monitoring in the production process.

7.3 Product Market

In NCR garments produced for both domestic and export market are of low and high fashion intensities. The cost of production of an average garment to be sold in the domestic market turns out to be around Rs. 550 per unit including labour cost of Rs.135 to Rs.160 and the average realization price of that garment would be in the range of Rs. 895 to Rs. 1495. The average realization price of a garment to be exported is of the range 5 to 15 dollars per unit. These estimates are of course crude averages and do not capture the variations in fashion intensity in the cluster. High fashioned garments usually fetch high economic rents and many of the firms try to create a niche in fashion designing. Exporters purchase goods through their buying agents located in source country and these buying agents play between producers to strike out a low supply price. For average products even exporters are quite aware of the cost of production of a standardized good but for high fashioned goods it is not easy to make a guess of the actual cost of production. This helps producers to earn windfall gains in specialized products.

Garments produced in NCR are sold to brands such as Stopper, Pantaloons, Rituwear, Lifestyle, Shapes, H&M, TNG, GAP, Diesel, Adidas and so on. Firms are competing with those producers located in low wage countries such as Bangladesh, Combodia, Vietnam, Sri Lanka, Pakistan and Indonesia. Most of the firms sell their products either to USA or to European countries. In the case of orders from USA there would generally be bulk orders of more standardized designs, while European purchasers usually give orders in relatively smaller batches and with varying designs. The reason behind why most of the large and medium scale firms are engaged in exports and not so much inclined to produce for the domestic market is manifold. First, in case of exports the producer does not have to set up its own marketing arrangement to sell the products and can realize the value of products by the single act of delivery to the

exporting agent. Second the circulation time in export market is relatively less than that in the domestic market. Third, the payment is relatively more secured in exports than that from multiple buyers in the domestic market. Hence the peculiar absence of large producers of garments in NCR selling for the domestic market is a result more of an institutional failure than that of market. On the other hand large global retailers such as Wallmart work on large volumes and low margins. And for that production at a large scale is more suitable than medium sized units those could not reap the benefits of scale. In this context China and even Bangladesh is far ahead of India because average size of firms in those countries is much higher than those in India.

In the recent past China has come in a big way in the export of garments. Although in the last year orders moved away from China to other producing countries such as India and Bangladesh because of the appreciation of Chinese currency with respect to dollars. However in the current year China has been strategic to bag a greater share of the garments export through quoting relatively lower price. Exporters in NCR reported a decline in orders so far primarily because of decline in demand due to global recession and also because of the fact that China could succeed in increasing their share in global orders for Spring-Summer seasons. However exporters in Noida and Gurgaon are expecting a better business for the ensuing autumn season. But in any case firms are booking orders even by compromising their margin and this is only to keep the unit running so that firms can retain their skilled personnel in good times expected in future. A system of forward contracting has also evolved in global trade that actually insulates realization of price from volatilities in exchange rates. Producers in NCR are inclined to engage in such contracts that would at least result in an assured return.

The labour intensity of garment production being high the share of wages in total cost of production has been the major considerations if not the defining factor in choosing the place of production. This has led to the global phenomenon of changing sites of production in search of low labour costs. But the mobility of labour on the other hand has also increased over the years thereby declining the wage differences across space. At least wage difference between Delhi Gurgaon and Noida and places in neighbouring states does not make much difference. But the price of land is increasing much faster pushing up the rents for factory spaces in places in NCR that possibly

tends to eat out the little margin attained in periods of recession. The other issue that becomes important is specific tax and other reliefs provided by respective state governments in order to attract new industries. In response to those policies garment units are relocated to spaces where cost of infrastructure turns out to be low giving rise to net benefits in business. On the other hand in the case of garment production commissioning of a new unit takes relatively less time often even less than a month to shift from one place to another given the fact factory sites are occupied on rent. As a result of which a different kind of dynamics evolve basically to reduce the cost of production and in a way garment units emerge as footloose industries. The shifting of spaces of garment production becomes a real hindrance to long term inter-linkages between firms. Earlier garment units were relocated from Delhi to Gurgaon and Noida primarily because of civic regulations but later on there has been a growing trend to set up industries in Manesar, Sonepat, Panipat, Jaipur, Bhiwandi and even to Bangladesh. These shifts are mainly driven by the purpose of reducing labour cost and the costs related to infrastructure. Besides these factors many of the producers having units in Dehli and Gurgaon purchased factories in Manesar that they got at a very low price and intended to extend their production capacity in booming times during 2000 to 2003. The excess capacity created could only be properly utilized when there would be large demand for exports. Otherwise even the full capacity is not utilized the owners do not really bother since they treat it as an investment to assets that is expected to give high returns in near future. Indeed the impact of global recession had hardly hit the garments industry but the effects are interestingly unevenly distributed. Since firms in Manesar are mostly extensions of Gurgaon and Delhi and the site basically hosts the second or third unit of the core firm, these are the firms who had to bear the effect of declining demand in the first instance. This precisely explains the fact that the effect of recession is much more intensive and visible in Manesar compared to Delhi, Noida or Gurgaon. One can see the dismal picture in and around Manesar where factories one after another has been shut down and the large number of fabricating units related to such parent firms are also closed.

7.4 Labour Process

The region is endowed with a regular flow of a large number of migrant labour who come from neighbouring districts of UP, Bihar and also from Orissa and West Bengal.

As reported by a labour contractor in Gurgaon the owners do not prefer to employ local residents in their units. This is primarily because local residents might have some connection with the legal or illegal power entities of the locality and that might add to their bargaining strength vis-à-vis the owner. In this context owners prefer migrant labourers because they are more vulnerable and hence more docile. Since there is no trade union, labour rights can be easily ignored if the share of migrant labour increases in the workforce. On the other hand migrant workers are less concerned about their rights and welfare rather inclined to earn more even if it involves higher exploitation and coercion. Most of the workers of garment units in Noida and Gurgaon stay at adjacent villages or commute from places where they could stay at low rents. However, during harvesting and sowing seasons most of the workers go back to their home villages to work in the field what little they have or to earn more as agricultural labour during peak seasons. And this does not cause much problem in the supply of labour because incidence of fluctuations in supply is low compared to the total supply of labour and also peak seasons in agriculture and exports in garments do not overlap.

In the case of Manesar it is reported that availability of labour for the garment factories becomes a problem and that is because of the underdeveloped civic amenities in the emerging industrial centre. People moved away from Delhi and Gurgaon and set up new factories in Manesar because of the low price of land and infrastructure but people who would work in these factories do not have proper low cost places to stay. Some of the factories use to carry their workers from places such as Gurgaon regularly by dedicated buses but this involves higher transportation costs on the one hand and on the other reduces flexibility in the production because workers should stop work in order to avail the scheduled bus service. If firms require longer hours of work either to meet the strict delivery schedule or due to pressure of larger orders firms make their workers stay at the shop-floor against a little amount of extra allowance through the night and make them work for longer hours.

The labour process in a garment unit includes a set of workers who are assigned in more or less fixed ratios. Normally in an assembly line for each of the 25 or 30 workers there would be one supervisor, two checkers and two helpers. This labour-set is multiplied according to the scale of operation. Employment of female labour in

these factories is not more than 10 to 15 per cent of the total and this is primarily because of two reasons. First, migrant workers from different parts of the country usually do not come along with their families and hence the pool of female labour itself becomes low. Second in northern part of India unlike the south there is cultural taboo against female going to work in factories along with men. The gender imbalance would probably ease out if owners set up separate assembly lines comprising of only women but that becomes uneconomic in most of the cases.

Wages paid to the workers vary according to their occupational grades. However, according to stipulated minimum wages of respective state governments three categories of workers are mentioned in reference to garment industry. The helper is considered unskilled worker and in UP the stipulated minimum wage from 1st. April, 2009 is Rs. 3372 per month; those workers involved in making layers of fabrics and cutting are considered semi-skilled and their minimum wages should be Rs. 3844 per month; the skilled workers are primarily checkers and supervisors to be paid minimum wages of Rs. 4267 per month. All the employers who responded claimed that they pay at least minimum wages as per schedule and this is also because payment of minimum wages is a binding for exporters who has to undergo social auditing by internationally recognized auditors. On the one hand this is true that in most of the factories wages are paid according to minimum wages but the side of the truth is working day in reference to which wages are defined in most of the cases is not eight hours of work and one and half shift is generally considered a day's work. Hence effectively wages paid are less than the stipulated minimum wages for various categories of workers. Indeed the procedure of social auditing has resulted in some pressure to the unwilling exporters pay their workers according to some norm but it has become more an issue of documentation rather than actual compliance of existing norms. Many of the owners argue that some of the health related and space related norms laid down in the Factories Act in the context of labour welfare are simply unrealistic and need immediate revision. Given the fact that firms in the global market have to compete with other countries in selling garments at a relatively lower costs, compliance of norms require a better designing of welfare norms that matches with the peculiar character of export industries. The limit of working hours need to be made flexible so that workers could be made to work for longer hours as and when required and would not be considered as forced work as it use to be in the existing act.

However, one can revisit the Factories Act in order to evolve a more realistic interpretation in the context of specific industries but in some way or the other the owners are primarily looking for a revision that legalizes their existing practice of flouting the labour laws.

Labour is recruited in the garments units in NCR through advertisements often laid down on the factory gate. The worker who wants to join would be asked to do some job which the company requires and if the worker is capable to perform it reasonably well he or she will be employed. Most of the workers are employed on contract and a small core basically those are experienced skilled workers are kept in company's payroll. Some of the skilled workers especially checkers, cutting masters and supervisors receive wages much higher than the stipulated minimum wages for skilled workers. The master cutter receives wages on an average Rs 11000 to Rs.12000 per month and supervisors receive monthly wages in the range of Rs. 8000 to Rs. 12000 on an average. Hence in the case of skilled workers owners pay efficiency wages in order to retain those skilled workers in their factories. There is high demand for skilled workers and a master tailor could easily get a job. However, because of increased competition firms are more inclined to produce garments at a lower cost and hence of less value addition. This trend resulted in a decline in the relative premium of skilled workers who are capable to make intricate designs.

The impact of recession in the labour market also varies by degrees. In some of the firms there has been decline in employment as a result of declining orders. In some, firms refuse to pay double wages for overtime that they were paying earlier and also account for 2 to 3 hours of overtime work even though workers are made to work for much longer hours. Firms those are exporting garments to US are relatively hardly hit compared to those exporting to European countries for quite obvious reasons. But during our survey we didn't find any garment unit entirely closed in Noida or Gurgaon because of the recession. On the contrary a large number of factories of some of the reputed brands such as Koutons, Vishal Garments, Jyoti Apparel, Modelema Exports have closed their units located at Manesar. As discussed in the previous section since these units are extended subsidiaries of some parent firms located in Delhi and Gurgaon and as a result of which they are the firms those closed as a response to recession in the first hand. A large number of fabricators linked to

these garment units are closed subsequently and this has created large scale unemployment.

7.5 Industrial Estate or Cluster

The concentration of garment units especially, exports units in places such as Noida, Gurgaon and Manesar is a development that took place over the past two decades. As mentioned earlier most of the units are relocated from Delhi and or new units which primarily came up as subsidiaries of a parent firm located in Delhi and later on in some cases gradually turned into an independent firm. The agglomeration although appears somewhat like an industrial cluster in the conventional sense of the term but actually it has little resemblance to what an industrial cluster really means. Indeed the geographical concentration helps sharing the physical infrastructure that had been created in a planned manner in these places but that is true also for other firms involved in producing engineering goods, ceramics computer software or hard ware and located in these areas. The industrial site was developed keeping in mind the notion of industrial estate which accommodates firms of various sectors in one place providing adequate physical infrastructures such as roads, power and water supply. Although firms located in both Noida and Gurgaon reported about frequent interruptions in power supply and for that they have to arrange permanent power back-ups which in any case increases the cost of production, nonetheless firms in these industrial sites enjoy common facilities those reduce transaction costs to a large extent. However the dynamics of industrial cluster is rooted in collective efficiency which presumes a dense network of production organization within firms. In this connection one can easily find that in case of NCR in terms of production linkages firms are more or less similar to stand-alone firms those basically share some common facilities created for the industrial estate. Most of the garment units perform the cutting stitching and finishing jobs in-house. The backward and forward linkages are thin in the sense fabrics are bought from other states, most of the dyeing and printing jobs are also done outside the cluster, sometimes fabrication jobs are subcontracted to smaller firms located at Sahibabad and Faridabad and the rest of the jobs are done in-house. Moreover for the exporting units maintaining quality and also to have greater control over the production process the portion of work subcontracted

gradually declines which in a sense reduces further the possibilities of extending production networks within firms.

The notion of collective efficiency does not preclude competition within firms. However it signifies a dynamic trajectory where firms collaborate to derive some public good or capabilities that in a way helps individual competitiveness of the firms as well. In NCR this kind of endeavour is largely absent except some owners in the recent past came together to form a cluster development programme. These forums have little faith upon government officials who are assigned for such cluster development from the Ministry of Small and Medium Enterprises because they find that such officials do not have any long term commitment and imagination to initiate such complex dynamics. This is primarily because the officials do take little interest in going deep into the problems and possibilities of specific industry in order to find appropriate modes of intervention. On the other hand the cluster being so diverse in terms of activities and dispersed at the same time most of the government departments find it difficult to comprehend an effective way of combining the large number of stakeholders in a single place. There is no doubt of the fact that development of a cluster cannot be permanently a 'top-down' process where exogenous initiatives would drive up the firms to some collective endeavour on a permanent basis. Initially this kind of interventions might be required but this cannot go for ever. And the success of the intervention can be best defined by the extent to which this cooperative competition becomes an autonomous process. In that case intervention in so many words means playing the role of a facilitator that actually helps building up a core with a critical number of firms who propagates a self-regulating process.

The other interesting fact one should notice is the lack of social embeddedness of the cluster. A natural cluster that evolved historically overtime has a deep rooted link with the socio-cultural process of the region, that is, the dynamics of the social life complements to the dynamic growth of the cluster. In the case of NCR this is not the case and quite obviously this is not also expected since it is an industrial cluster that has emerged because of some government planning that is exogenous to the growth of the cluster. The social embeddedness provides source of social capital, reduces transaction costs by means of trust between economic agents earned through repeated transactions and also helps resolving labour disputes in a more inclusive way.

However these are mediated through institutions those evolve over time and cannot be easily put in place easily by some external agency. Since due to so many reasons discussed in earlier sections the garments units in the region are in a state of flux moving from one place to another assuming the character of 'footloose enterprise' there is less motivation to collaborate with other firms in order to achieve long-term goals. As a result there is a clear disincentive unlike industrial clusters undergoing some deliberate activity that creates positive externalities sine it cannot be captured in the price of the product at least in the short-run.

The vulnerability of the cluster as well as the labour force in the face of external shocks increases when the cluster could not provide adequate cushions to absorb such shocks. Industries are not just buildings and machines. One of the most vital components is a labour force endowed with requisite amount of skill. The extreme volatility in the labour market specifically of skilled labour in Gurgaon and Manesar is primarily because of a myopic view of urbanization that ignores issues related to the livelihood of the labour. In the garment industry analogous to any other industry there are two kinds of competition: one is the race to the bottom where firms basically compete solely on the basis of minimizing costs even if that involves compromise in quality; the other way is to move towards upper end of the market dealing with fashion garments. But in any case moving towards the latter involves investments in human capital and in such a scenario industries should look at labour in a different way altogether. Pushing down the wages either by relying more on contract labour and also by increasing the working hours would provide a little leverage in the longer run.

7.6 Summary and Conclusions

1. Since mid-eighties National Capital Region that includes Delhi, Noida and Gurgaon has emerged as the major site for production and exports of readymade garments. In NCR there is not much variation in size categories in garment units and this is primarily because firms were set up at plots having stipulated size defined by the respective state governments. Production of garments in NCR includes a process of arranging raw materials and intermediate products from different parts of the country and rendering the core activities such as cutting, stitching and finishing in-house. The knit fabric used by firms in NCR come from

Ludhiana, yarn-dyed fabrics are sourced from Chennai while cotton cloth are produced at Delhi. Dyeing and printing jobs are largely done by firms located at Sahibabad and Faridabad and sometimes firms get polyester printing done from specialized units located at Ahmedabad and Surat. Printing of tags, stickers and barcodes required for garments are also produced in the same cluster and there are some specialized embroidery units doing job work for the garments unit located nearby. Firms in Delhi, Noida and Gurgaon mostly produce ladies' and kids' woven garments.

2. Firms in NCR are largely exporting units those came up during the period 2000-2003. These are firms either relocated from Delhi, new start-ups or extended and multiple plant of an existing unit. In NCR one can easily find several cases where the single owner owns 3 to 8 similar sized firms located in the same area as separate legal entities. This is perhaps also the reason why the firms did not grow in terms of employment and output over the years. Because of legal restrictions the expansion of firms got manifested in horizontal expansion through multiple firms rather than vertical integration reflected through expansion in size. Firms reported employment of 250 to 450 workers on an average although there are firms of larger size employing 1500 to 6000 workers considering all its subsidiaries. There are a few firms engaged in both export and producing or doing job work for the domestic market.

3. In most of the exporting units the production process is organized in an assembly line that is, the production of the whole garment is broken up to a number of phases and detailed sub-phases in which several categories of labour are employed. The length of the assembly line in terms of activities involved is somehow directly related to the number of machines involved as well as the complexity of the garment produced. The length of the production chain varies from those involving 12 to 13 people and in large factories especially in the case of making trousers this may be involving around 100 to even 140 people. The increased division of labour although increases the productivity of labour but this also depends on the size of orders of specific designs. If the orders of specific designs are small relative to the production chain or the length of the assembly line optimal productivity of the labour would not be reached. This also possibly

explains the fact why labour productivity in firms producing for the domestic market is relatively low compared to those in exporting units.

4. Garments produced in NCR are both meant for domestic and export market and are both of low and high fashion intensities. sold to brands such as Stopper, Pantaloons, Rituwear, Lifestyle, Shapes, H&M, TNG, GAP, Diesel, Adidas and so on. Firms are competing with those producers located in low wage countries such as Bangladesh, Combodia, Vietnam, Sri Lanka, Pakistan and Indonesia. Most of the firms sell their products either to USA or to European countries. In the case of orders from USA there would generally be bulk orders of more standardized designs, while European purchasers usually give orders in relatively smaller batches and with varying designs.The cost of production of an average garment to be sold in the domestic market turns out to be around Rs. 550 per unit including labour cost of Rs.135 to Rs.160 and the average realization price of that garment would be in the range of Rs. 895 to Rs. 1495. The average realization price of a garment to be exported is of the range 5 to 15 dollars per unit. These estimates are of course crude averages and do not capture the variations in fashion intensity in the cluster. High fashioned garments usually fetch high economic rents and many of the firms try to create a niche in fashion designing.

5. The reason behind why most of the large and medium scale firms are engaged in exports and not so much inclined to produce for the domestic market is manifold. First, in case of exports the producer does not have to set up its own marketing arrangement to sell the products and can realize the value of products by the single act of delivery to the exporting agent. Second the circulation time in export market is relatively less than that in the domestic market. Third, the payment is relatively more secured in exports than that from multiple buyers in the domestic market. Hence the peculiar absence of large producers of garments in NCR selling for the domestic market is a result more of an institutional failure than that of market.

6. The labour intensity of garment production being high the share of wages in total cost of production has been the major considerations if not the defining factor in choosing the place of production. This has led to the global phenomenon of changing sites of production in search of low labour costs. But the mobility of labour on the other hand has also increased over the years thereby declining the wage differences across space. At least wage difference between Delhi Gurgaon

and Noida and places in neighbouring states does not make much difference. The other issue that becomes important is specific tax and other reliefs provided by respective state governments in order to attract new industries. In response to those policies garment units are relocated to spaces where cost of infrastructure turns out to be low giving rise to net benefits in business. On the other hand in the case of garment production commissioning of a new unit takes relatively less time often even less than a month to shift from one place to another given the fact factory sites are occupied on rent. As a result of which a different kind of dynamics evolve basically to reduce the cost of production and in a way garment units emerge as footloose industries. The shifting of spaces of garment production becomes a real hindrance to long term inter-linkages between firms.

7. Earlier garment units were relocated from Delhi to Gurgaon and Noida primarily because of civic regulations but later on there has been a growing trend to set up industries in Manesar, Sonepat, Panipat, Jaipur, Bhiwandi and even to Bangladesh. These shifts are mainly driven by the purpose of reducing labour cost and the costs related to infrastructure. Besides these factors many of the producers having units in Dehli and Gurgaon purchased factories in Manesar that they got at a very low price and intended to extend their production capacity in booming times during 2000 to 2003. The excess capacity created could only be properly utilized when there would be large demand for exports. Otherwise even the full capacity is not utilized the owners do not really bother since they treat it as an investment to assets that is expected to give high returns in near future. Indeed the impact of global recession had hardly hit the garments industry but the effects are interestingly unevenly distributed. Since firms in Manesar are mostly extensions of Gurgaon and Delhi and the site basically hosts the second or third unit of the core firm, these are the firms who had to bear the effect of declining demand in the first instance. This precisely explains the fact that the effect of recession is much more intensive and visible in Manesar compared to Delhi, Noida or Gurgaon.

8. The region is endowed with a regular flow of a large number of migrant labour who come from neighbouring districts of UP, Bihar and also from Orissa and West Bengal. As reported by a labour contractor in Gurgaon the owners do not prefer to employ local residents in their units. This is primarily because local

residents might have some connection with the legal or illegal power entities of the locality and that might add to their bargaining strength vis-à-vis the owner. In this context owners prefer migrant labourers because they are more vulnerable and hence more docile. In the case of Manesar it is reported that availability of labour for the garment factories becomes a problem and that is because of the underdeveloped civic amenities in the emerging industrial centre. People moved away from Delhi and Gurgaon and set up new factories in Manesar because of the low price of land and infrastructure but people who would work in these factories do not have proper low cost places to stay.

9. Many of the owners argue that some of the health related and space related norms laid down in the Factories Act in the context of labour welfare are simply unrealistic and need immediate revision. Given the fact that firms in the global market have to compete with other countries in selling garments at a relatively lower costs, compliance of norms require a better designing of welfare norms that matches with the peculiar character of export industries. The limit of working hours need to be made flexible so that workers could be made to work for longer hours as and when required and would not be considered as forced work as it use to be in the existing act. However, one can revisit the Factories Act in order to evolve a more realistic interpretation in the context of specific industries but in some way or the other the owners are primarily looking for a revision that legalizes their existing practice of flouting the labour laws.

10. The agglomeration although appears somewhat like an industrial cluster in the conventional sense of the term but actually it has little resemblance to what an industrial cluster really means. Indeed the geographical concentration helps sharing the physical infrastructure that had been created in a planned manner in these places but that is true also for other firms involved in producing engineering goods, ceramics computer software or hard ware and located in these areas. The industrial site was developed keeping in mind the notion of industrial estate which accommodates firms of various sectors in one place providing adequate physical infrastructures such as roads, power and water supply. However the dynamics of industrial cluster is rooted in collective efficiency which presumes a dense network of production organization within firms. In this connection one can easily find that in case of NCR in terms of production linkages firms are more or less

similar to stand-alone firms those basically share some common facilities created for the industrial estate. Most of the garment units perform the cutting stitching and finishing jobs in-house. The backward and forward linkages are thin in the sense fabrics are bought from other states. Moreover for the exporting units maintaining quality and also to have greater control over the production process the portion of work subcontracted gradually declines which in a sense reduces further the possibilities of extending production networks within firms.

11. In NCR collective endeavour is largely absent except some owners in the recent past came together to create a forum for cluster development. These forums have little faith upon government officials who are assigned for such cluster development from the Ministry of Small and Medium Enterprises because they find that such officials do not have any long term commitment and imagination to initiate such complex dynamics. This is primarily because the officials do take little interest in going deep into the problems and possibilities of specific industry in order to find appropriate modes of intervention. On the other hand the cluster being so diverse in terms of activities and dispersed at the same time most of the government departments find it difficult to comprehend an effective way of combining the large number of stakeholders in a single place.

12. The other interesting fact one should notice is the lack of social embeddedness of the cluster. A natural cluster that evolved historically overtime has a deep rooted link with the socio-cultural process of the region, that is, the dynamics of the social life complements to the dynamic growth of the cluster. In the case of NCR this is not the case and quite obviously this is not also expected since it is an industrial cluster that has emerged because of some government planning that is exogenous to the growth of the cluster. The social embeddedness provides source of social capital, reduces transaction costs by means of trust between economic agents earned through repeated transactions and also helps resolving labour disputes in a more inclusive way. However these are mediated through institutions those evolve over time and cannot be easily put in place easily by some external agency. Since due to so many reasons discussed in earlier sections the garments units in the region are in a state of flux moving from one place to another assuming the character of ‘footloose enterprise’ there is less motivation to collaborate with other firms in order to achieve long-term goals.

chapter **8**

A Note on Ancillaries and Technology Parks

8.1 A Note on Ancillaries

The concept of ancillary is primarily in reference to a subcontracting relationship between large and small firms. However subcontracting as an organizing principle draws its strength from the division of labour and optimizing utilization of resources between large and small firms. There can be different types of technical subcontracting between large and small firms as discussed by Watanabe (1978). In case of *industrial subcontracting* – the work the subcontractors do, enter as intermediate products or processes within the parent unit's broader manufacturing processes. While in *commercial subcontracting,* the parent firm is a trading firm, it contracts out the production of a whole product and sells it as its own. Industries involving small firms in the latter form might be termed as 'ancillary' units since such units rely for marketing of the products on some other industry or group of industries. Ancillary status also depends on the proportion of supply to industrial units. When an industrial establishment manufactures and supplies more than 50 per cent of its production to any one or more parent units or units, the former unit is termed as an ancillary provided its investment in plant and machinery does not exceed Rs.45 lakhs and it is not a subsidiary to or is controlled by any large scale units. Depending on the type of engagement with the larger firm ancillaries can be of the following types: (i) Monotype: where the smaller unit is tied to the needs of a single parent firm (ii) Poly type: where the ancillary caters to the needs of a number of parent units (iii) Indirect operation: conducting supplies through organizations often operating as commission agents or dealers.

Subcontracting represents a form of inter-firm relationship where large firms procure manufactured components, sub-assemblies and products from a large number of small firms. In some cases, subcontracting is associated with 'job work' where a parent firm provides the necessary raw materials to small firms which return these materials after

turning them into a required form (as per the technical specification), at a pre-determined rate. The relationship between the parent firm and the subcontractors is not necessarily backed by legal contracts but mostly depends on mutual trusts attained through repeated transactions. However since the marketing of the products produced by smaller firms depend on the larger unit there is surely some sort of unequal exchange giving rise to a dependent relationship. The dependent relationship is reproduced in several ways. Primarily the dependence is due to the lack of access to and knowledge about the market. Moreover, because of the chronic shortage of capital smaller units have to borrow from their parent firm and this strengthens further the dependent relationship. Third, in cases where there are seasonal fluctuations in output during the slack period of the year, the smaller units cannot afford to hold inventories for future. However, if they close their units during off-seasons, it would affect their production even in the peak seasons, as they could not find the skilled workers. This compels the subcontracting units in supplying output to the parent units at a lower rate during slack periods. By this way, the larger units reduce their costs of creating inventories while the smaller units can keep their production running.

Table 8.1
Percentage Share of Manufacturing Enterprises of Various Size Categories Engaged in Subcontracting Relationship

Rural	2000-01	2005-06
OAMEs	28.0	31.3
NDMEs	21.5	22.1
DMEs	21.9	19.8
Total	27.6	30.4
Urban		
OAMEs	38.8	36.5
NDMEs	33.3	27.7
DMEs	42.6	37.4
Total	37.9	34.7
All-India		
OAMEs	30.7	32.5
NDMEs	28.9	25.4
DMEs	34.7	30.4
Total	30.7	31.7

Source: NSSO Report on Unorganised Manufacturing Enterprises in India No. 477 and 524.

Table 8.1 shows percentage share of manufacturing enterprises of various size categories engaged in some kind of subcontracting relationship with other firms. However this data does not suggest that firms are only engaged in subcontracting to some relatively larger firm which usually happens in case of ancillaries but captures

the broad trends of subcontracting over the years. Although it is generally assumed that subcontracting has increased in the wake of globalization because while facing competition larger firms normally tend to outsource part of their jobs in order to reduce costs. On the contrary contract engagements increased only marginally between the two reference periods and it increased largely in the case of rural enterprises. Ancillaries can club together in industrial agglomerates and such clusters are known as Hub and Spoke type clusters. Such clusters exclusively centered around a few large firms are not many in India but subcontracting of ancillary type can be found in almost all the SME clusters. In West Bengal one can find large firm centered cluster, the fan industry cluster in Tollygunge which evolved as suppliers of fan parts to Usha Fan Factories in the late fifties. However, similar ancillary relations can be found in Tirupur in Tamil Nadu and garments producing cluster in Gardenreach nearby Kolkata.

As a part of the project Gardenreach cluster has been surveyed specifically looking into firms who work with one or two parent firms. These firms are mostly concentrated in Kolkata corporation ward nos. 138 to 141. In this region some poor Muslim peasant families settled in the 18th. Century. In the middle of the 19th. Century some upcountry Muslim tailors were brought to this place as a part of the entourage of the Nawab of Audh when he was dethroned and made to settle in this place near Calcutta. Gradually it became one of the clusters for producing garments mainly catering to the needs of local markets and supplied to *Monglahaut* in Howrah. In Chatta, Maheshtala and Noongipur small firms are concentrated according to their specialization. The major actors in the production process are the patternmaker, cutter or *metjee* and tailor or *dorjee*. The *Ustagar* who usually happens to be Bengali Muslim is the key person organizing the production process. The subcontracting works through *petty-ustagars* who does the job for the main ustagar. The dependence flows from raw material suppliers who own large shops located in Battola bazaar sourcing fabric from mills in Surat, Ludhiana, Ahmedabad and Delhi. Interest free trade credit to ustagars is the main channel through which the material suppliers exercise dominance over the production process. The wholesale market is located in Jabbar and Karbala where ustagars hold their shops and sell goods to customers coming from different parts of India. The parent firms and ancillaries are the major

constituents of the cluster and particular moments of equilibrium/disequilibrium between various fields of forces constitute the dynamics of growth in the cluster.

The horizontal and vertical relations of an industrial cluster rest upon a fine balance between competition and cooperation. Competition between similar size categories of firms is reflected by creating differentiated products using the available common pool of resources involving a process of cultivating non-proprietary or collectively owned knowledge. In this process successes emerge in some cases and failures in others. Repeated successes give rise to winners and this may happen because of introducing new technology or by successfully contextualizing external technology. Successful firms try to redefine the existing rules, imposes new discipline in the work-process and act as a homogenizing force by freezing the recreated rules of exchange. On the other way, firms are vertically linked into complementary relations defining the division of labour in the cluster. However, over-embeddedness bears the risk of being locked-in to specific clientele relations and reduces the responsiveness of firms to changing markets. Deeper the division of labour goes within the cluster the lesser remains the possibility of optimal use of flexibility if not counterbalanced by the entry of new firms. This is the kind of problem usually emerges in clusters based on ancillaries. Competition and cooperation in a cluster are not substitute modes of interaction. The cluster should continuously create opportunities and environment for fierce competition between firms at the enterprise level while at the same time continuously get exposed to external challenges of competition that facilitate cooperation and joint action between firms in order to access collective indivisible inputs. Hence the vertical relations need not be rigid and the space for competition within suppliers should prevail. The homogenizing trend within the cluster if increases beyond a critical limit and get mediated through the disciplining forces of relations and institutions, the cluster gradually loses the attributes of flexibility.

Rigid vertical integration reproducing dependence between various sizes categories of firms ultimately evolves as a large hierarchical structure although with inter-firm transactions similar to the putting out or semi-putting out systems. This often results in cumulative asymmetry in wealth and endowment that influence equilibrium outcomes. In that case the kind of exchange relationship that comes into play is neither based on cooperation nor similar to the competitive equilibrium conceived of

in a Walrasian economy ─ where, the identity of exchange partners is irrelevant, and all agents are indifferent between current transactions and their next best alternative. The parent-subcontracting relationship assumes the form of *contested exchange*, where the bigger firm has the power over the small producer to impose sanctions affecting the future stream of revenue while the latter lacks the capacity with respect to the former. In such a situation the small producers in the clusters do not face a market, where each firm could take the price or market demand as given and can largely ignore its competitors. Rather, they had to consider others' behaviour. Increasing revenue in such situations depends on the extent to which the small firm is agreed to sharing a greater premium of profit with the parent firm, be it directly or indirectly and hence quote a relatively lower price in comparison to others. The parent firm transfers the burden of fluctuations in raw material prices to the suppliers, compels them to supply at lower rates during off-season, retains a part of the productive capital of small producers through delayed or partial payments, and even increases margin through supplying one producer's specific design to others. These are all 'hidden' stories in an incomplete contract between the parent and the subcontracting firm and normally there is no relevant third party to monitor or redress. Bowles and Gintis (1990) identified this kind of contested exchange as *endogenous claim enforcement*, which gives rise to a well-defined set of power relations among voluntarily participating agents even in the absence of collusion or other obstacles to perfect competition. In sum, competition between subcontracting firms in such a scenario largely depends on the ability to reduce costs, cooperative efficiency seizes to be the dominant plank of competitive advantage, the pool of tacit knowledge gradually runs out and the larger firms are increasingly inclined to reap oligopsonic rents. As a result, market neither provides incentive to introduce external knowledge, and hence, nor to initiate fresh runs of cultivating tacit knowledge needed to decode and contextualize new arrivals of technology. Competition once again largely depends on cutting down costs, production becomes more and more standardized, absorption and dissemination of knowledge seizes to be the motive force for growth. The objective necessity of trust and cooperation evaporates, the community structure breaks down and the space increasingly gets replaced by hierarchy and market.

8.2 A Note on Technopoles

The global trend of increasing share of services in output has been well recognised in the literature. Sometimes it is attributed to rising per capita income since demand for services normally has relatively high income elasticities and as a result more the economy grows the more will be the demand for services linked to transport, telecommunication, travel, hotels and restaurants and so on. In regard to employment the rising absorption of labour force in the services vis-à-vis manufacturing is also explained in terms of slow growth in labour productivity in the case of services vis-à-vis manufacturing. However measurement of labour productivity in services is not really settled. In any case the rising share of services in both employment and output in developed and developing countries gave rise to the need to strategize development in a way that takes care of the emerging trend.

In many occasions and even in academic research the structural change in favour of services especially the phenomenal increase in the share of IT and ITES in both output and employment is characterized as the rise of the knowledge economy. There is no doubt about the fact that the knowledge composition of almost all products has increased, both in terms of the quantity and quality of knowledge embodied in products. Needless to say, that there has been phenomenal rise in the speed of dissemination of knowledge as well, possibly an outcome of the communication revolution. But this change should be viewed in historical continuity rather than a sporadic upsurge since the element of knowledge always existed in the process of creative intervention of man into nature in the form of labour. The significant change that has taken place over the years is the rise in the commercialization of knowledge that is knowledge inputs are much more marketable at present than it used to be in the past.

However, the underlying process of commercialization of knowledge has its own limitations and that is because of the substance of knowledge itself. Commercialisation and marketability requires abstraction of knowledge from its direct dependence on the human brain of the creator and needs to be packaged in a codified form *viz*., book, machine, software and so on. More the knowledge gets codified the easier it is to make it tradable, the more it takes the proprietary form and put to use by capital. True indeed, in the course of growth of knowledge the mass of

codified knowledge has immensely increased. As a result, capitalist relations of production could easily transform a vast mass of codified knowledge into commodities and by dint of the magnificent change in communication technology the pace of exchange has increased manifold. But beyond this realm of codified knowledge there is the other component of knowledge that cannot be codified, cannot be easily abstracted from the act of its use, highly contextual and tacit. That component of knowledge, the share of which has always been much higher than that of the codified form has also grown with the overall growth of knowledge. Normally these elements of knowledge have a larger subjective content as against its objectified forms embodied in goods, machines or in an electronic chip. These two constituents of knowledge are in any case not mutually exclusive: absorption of codified knowledge presupposes the act of de-codification and re-contextualisation of the packaged knowledge that assumes a tacit contextual form.

Increasing relevance of contextual knowledge brings us back to the issue of evolving changes in the industrial organization. If information requires interpretation and decoding capability, innovation and development of knowledge is efficiently set within industrial networks where agents continuously interact and socialize their mental models. Industrial districts are assumed to be the repository of the stock of contextual knowledge embedded in a region comprising of the dual process of absorbing external knowledge and at the same time by way of decoding and contextualizing enhances the internal capabilities of firms, sets in motion new organizational routines for the whole region. In the case of hierarchical structures vertical differentiation may be effective for routine tasks, but less effective when tasks are non-routine. On the other hand, market is not the efficient mechanism to allocate knowledge in a socially optimal way since the marginal cost of supplying an additional unit of knowledge is close to zero. Hence, between authority and competition arises the scope of community relationship and trust—an additional mode of exchange compatible with the growing use of knowledge in production. Industrial clusters seem to be the appropriate site bearing traits of the evolving pattern of knowledge exchange.

In this context the ‘knowledge’ cluster is defined as an innovative, interrelated group of firms that gain competitive advantages through building and transmitting

knowledge among local actors and institutions. A cluster can revolve around a certain industry that exports beyond the region or involve technologies that cross industry boundaries. The dissemination and acquiring of knowledge in a traditional manufacturing cluster and in an IT cluster might vary but the advantages derived agglomeration economies are similar in both the cases. However the rising importance of IT in the economy especially in terms of export earnings prompts to develop specific strategies to promote IT parks or clusters.

The Software Technology Parks of India (STPI) is a society set up by the Ministry of Communication and Information Technology, Government of India in 1991, with the objective of encouraging, promoting and boosting the Software Exports from India. The scheme is unique in the sense it is specially designed to focus on one product, computer software. This scheme integrates the concept of 100 per cent Export Oriented Units (EOUs), Export Processing Zones (EPZs) of Government of India and the concepts of science /technology parks operating elsewhere. Under this scheme firms are provided *a)* facilities of single window clearance mechanism *b)* 100 per cent foreign equity is allowed *c)* goods imported/ procured locally by the STP units are completely duty free *d)* sales in the domestic market is permissible up to 50 per cent of the export *e)* Income tax benefits under sections 10 A/ 10 B of income tax Act *f)* Minimal Export Obligation with positive Net Foreign Exchange.

The high-tech clusters influences the development of software firms in three broad ways as argued by Porter (1998). First, by increasing the productivity of companies in the area; second, by driving the direction and pace of innovation, which underpins future productivity growth; and third, by stimulating the formation of new businesses, which expands and strengthens the cluster itself. Companies have been able to operate more productively in sourcing hardware and software, accessing information, technology, and local institutions, coordinating with related companies, and measuring and motivating improvement. Software firms have been able to tap into an existing pool of specialized and experienced employees, thereby lowering their search and transaction costs in recruiting. It has been easier to attract talented people from other locations because the cluster of firms signal opportunity and reduces the risk of relocation for employees. Many of the foreign owned firms located in the cluster helped in faster diffusion of technology and as a result facilitated in moving up the

value curve. At the same time, Indian software firms like Infosys and Wipro opened offices in the U.S., or acquired U.S. companies, to better serve their clients on high-end projects and to have listening posts in Silicon Valley. Thus, physical distance was bridged by the strengthening of cross-national, intra-firm networks and by inter-firm social networks among Indians and overseas Indians.

In spite of the fact that technopoles have similar advantages of creating and sharing contextual knowledge similar to manufacturing clusters there are dissimilarities as well. In the production of computer software the contribution of skilled labour in value addition happens to be the highest and as a result the firm depends more on the labour compared to other manufacturing activities. Since specialized skills are relatively scarce and the cost of labour cannot be depressed easily firms are compelled to compete on the basis of degree of specialization, customization and maintaining strict schedules of delivery. As a result IT clusters are mostly driven by competition of the high road variety. Second the synergies that grow between firms and institutions and networks in an IT park are less dependent on geographical proximity and that also increases the mobility of labour. Third, in the case of manufacturing possibilities of dividing the production process into several components and creating inter-linkages are far more higher than in services output and as result the density of firms in software, their inter-linkages are relatively less compared to manufacturing clusters. Fourth, because of greater dependence on knowledge inputs IT clusters normally have greater links with universities and technology institutes. Although this is primarily because researches related to innovation in manufacturing goods receive low priority in university education and related institutes. Finally, the social embeddedness of IT clusters happens to be low compared to traditional natural clusters. People involved in various activities in the forward and backward linkages in a manufacturing cluster usually come from local area and that influences the local economy through multipliers. Although as mentioned in the survey reports, manufacturing clusters do not always source labour from the local pool and prefer to employ migrants but that is because of considerations which are largely different from that in the case of an IT cluster. In the case of high-technology products the demand of skilled labour would not be met by the people from the same locality and as a result the effect of the multiplier is much more diffused and cannot be captured within the limits of the same geographical area. Moreover the local formal and informal

institutions have a little role to play in the case of IT clusters. The trusts between firms are mostly acquired through repeated transactions and not built upon those ascribed by some local cultural or sociological norms as it use to be in most of the traditional clusters. Hence local institutions are rarely called for mediating transactions between economic agents.

True indeed that facilities and subsidies given by the government need not be uniform across sectors and also IT and ITES has relatively large export potentials and should get priority in terms of facilities. However this does not in any case justify the lack of adequate support to traditional clusters those also contribute to the foreign exchange earnings in India. The promotional facilities given to specific sectors need to be phased out in due course, otherwise it would distort the efficient allocation of resources. A proper balance need to be struck out between various separate but interlinked goals such as export promotion, creating opportunities of employment of skilled and unskilled workers, achieving best practices in technology and management and in a broader sense building capabilities in a balanced manner.

chapter 9
Conclusions and Policy Perspectives

This chapter primarily draws in some broad conclusions in the context of cluster development that could provide an appropriate pretext for deriving policy prescriptions:

9.1 Conclusions

a) Industrial structures across the world are undergoing significant changes. Participation of developing countries in global manufacturing and exports shows a decisive rise, although share in trade in manufacturing is increasing much faster than the growing share in output. Moreover, there is a growing trend in specializing in specific tasks in the production of goods and developing countries could enter into the global markets without having to produce the whole of the product. What seems to be more important is that the production of a relatively capital intensive good can be broken down into parts that might be labour intensive or require low skills. This fact opens up the opportunity for developing countries to enter into the global value chain and take part in producing a sophisticated product. Scale and specialization bottle-necks that primarily emerge because of limited domestic market could also be released to a great extent, as expected, through globalization. The prime thrust of policies related to clusters needs to be based on identifying sectors and regions that could be potential areas of growth.

b) The major problem with earlier policies related to small-scale sector was that those were premised on a 'preservationist' approach. In other words, those policies were grounded on the dominant notion of large-scale industry driven growth, while protecting the 'small' because of its employment absorption capacity as opposed to 'efficiency' parameters. As a result, the framework of supporting the small was never linked with the 'accumulation' purpose of faster growth and was located at the margin of planned development. A related issue is the existing gap in theoretical literature: in the sense, neither the representative firm, nor the industrial organization analysis of big firm could capture the

dynamics of small firms. Hence the policy tools used so far based on traditional notions of firm could not bear fruit and the database on small enterprises remain grossly vacuous. Policies on small enterprises should mark a radical break from its preservationist past and need to trace the 'propagative' mode of the current process of industrialization in which barriers to entry because of larger scale gets reduced and lower unit costs does not necessarily require higher scales. Competitiveness is becoming increasingly linked to customization as well as idiosyncratic knowledge. In regard to policy this requires a change in attitude towards support: it is more of building capabilities through networks and synergies rather than being regulatory and redistributive in a static sense.

c) The critical assumptions related to the textbook notion of 'firm' rules out possibilities of increasing returns, and externalities that give rise to relevance of space in industrial organization. The 'collective efficiency' paradigm underlines the significance of agglomeration in place of individual firms. But the problem is that the parameters, which we normally use to analyse successes and failures, consider firm as the unit of analysis and these cannot provide indicators to policies related to cluster. True indeed that a large amount of transaction costs and communication costs get reduced once the government deals with a number of firms in a collective manner as clusters, but in order to evaluate the impact of such interventions one needs to identify parameters that capture the growth and health of the whole cluster. And this requires an altogether different set of parameters and related process of data collection that could help in building effective benchmarks.

d) The horizontal and vertical relations of an industrial cluster rest upon a fine balance between competition and cooperation. Competition and cooperation in a cluster are not substitute modes of interaction. The cluster should continuously create opportunities and environment for fierce competition between firms at the enterprise level while at the same time continuously get exposed to external challenges of competition that facilitate cooperation and joint action between firms in order to access collective indivisible inputs. Hence the vertical relations need not be rigid and the space for competition within suppliers should prevail. The homogenizing trend within the cluster—if increases beyond a critical limit and gets mediated through the disciplining forces of relations and institutions—

gradually loses the attributes of flexibility. Within this framework, policies on small enterprise clusters need to be more specific instead of a general formulation that fails to capture the specific dynamics of each cluster. In a sense, policies should be conducive to incubate and foster entrepreneurship and innovation. In that sense, cluster development should be integrated to a comprehensive exercise on regional planning.

e) The issue of cluster development is linked with 'inclusion', obviously through the string of employment. But integration with the global market has driven large enterprises into a process of competition that primarily depends on the ability of generating innovation-rents and the same process, as a result, involves more capital-intensive technologies and hence lesser employment elasticities. The 'small' in this context has been traditionally considered as 'absorbing sponge', but absorption by default does not imply inclusion. Inclusiveness is related to the notion of gainful employment and hence needs to be looked at in reference to its contribution in the process of generating economic surplus. This primarily calls for promoting modern enterprises that could be linked either to the global value chain or the domestic chain of value addition. Promotion of modern small enterprises is not just a supply-side issue, rather it involves significant changes in policies that affect income distribution. Going by efficiency grounds also, a firm with a given technology might not reach the lowest level of the long-run average cost curve because of lack of demand. This demand needs to be propped up by a shift in distribution of income that reduces both the higher and lower ends of the income spectrum. This implies a gradual reduction of demand of very high quality luxury commodities on the one hand, and low-end products on the other.

f) The small enterprise clusters in India are largely populated by enterprises of self-employment that produce either by employing one or two hired labourers or mostly employing only family labour. Within the cluster the share of these enterprises increases in terms of employment while their presence is not proportionately represented in terms of output, basically implying a process of self-exploitative fragmentation—possibly the most common way of poverty sharing in developing countries. The other side of the fact is that most of the clusters register a high export oriented growth, and, mark a clear disconnect between dynamic bigger enterprises and the subsistence layer of small enterprises.

Even if a few firms in the cluster grow at a faster rate, this higher growth path is not diffused at large since most of the dynamic firms get linked to higher value added markets, and so it becomes imperative to break all sorts of subcontracting linkages with household enterprises that hardly suffice to provide a standard norm of quality. As a result, there seems to be little diffusion of the incremental value added and the small firms remain caught in the lower end of the market. On the other side, since most of these small enterprises have little access to market and depend on traders to sell their products they fall prey to perpetual dependence. Policies on small enterprise clusters should evolve tools to codify quality and enhance capabilities of tiny enterprises such that most of them could be integrated to a larger value chain through subcontracting. Besides codification, monitoring and branding qualities and providing access to information, public infrastructures may help small firms in accessing markets directly.

g) The SME clusters in developing countries are often characterized by the 'low road' growth path and firms compete on the basis of low wages and deny basic rights to workers. The labour markets in these clusters are fairly flexible and involved in contract labour system. Labour institutions such as trade unions are either absent or weak to pursue even 'minimum wages' or 'fair wages' for the workers. They cannot hold back labour supply to these enterprises. Workers attain firm-specific skills and create economic rent by way of increasing marginal value product of labour. However, in an unprotected situation, wage claims of workers are not determined by the marginal labour productivity and do not reflect the claims for worker's skills. This in turn acts as a disincentive for acquiring skill. Moreover, in the absence of trade unions there is none to protect the skill specific internal labour market and the production process increasingly involves 'raw' labour. The possibility of employing labour at a low wage sometimes acts as a disincentive to investments in technology and hence the cluster gets perpetually stuck into the 'low road'.

h) Capital market is less developed and non-market institutions that are expected to ameliorate market failures are in many instances incomplete. Capital invested in these firms remains confined to the informal domain of operation although return on capital is relatively high. Uncertainty in demand inhibits expansion of production capacity even with borrowed funds from formal sources. Besides, the

small enterprises who are stuck at the lower level of technology often take refuge at the lower end of the market in the face of global or national-level competition. In developing countries, markets often fail to signal the appropriate choice of technology because of widespread information imperfections and missing markets. The learning process to upgrade technology appears to be risky and unpredictable due to information as well as capital market failures. Moreover, the presence of significant technological externalities inhibits individual initiatives for upgradation. On the supply side, markets fail to: develop special skills, promote quality awareness, and, in raising industry standards.

i) Resolving market failures needs a coordinated effort that involves a conscious process of capability building. The endowment of traditional skills and cheap labour are not sufficient to attain dynamic comparative advantage. New skills, technological competence, proper administrative capabilities and strong support institutions to provide collective indivisible public goods are the essential elements needed for participating in higher value chains. Developments are required at all levels *viz*. procurement, production processes, managerial and organizational efforts in order to improve the durability, reliability and precision of products.

j) Capital invested in the small home-based units is not 'capital' in the general sense, as these are hardly transferable to alternative sites of investments. It has to be applied in a way to valorize the family labour. In these situations, the markets for capital and labour are not separate and independent. They are both segmented markets, as the family labour cannot always have recourse to alternative occupations. A labourer turned into a self-exploitative producer, and the producer partially sharing the role of labourer—this is the dual process giving rise to a band of 'intermediate class', with contradictory locations between workers and entrepreneurs. Voices of these small producers go mostly unheard in political constructs. As a result, the mode of accumulation of this intermediate class depends upon the extent to which they are capable in influencing policies during implementation rather than in the course of their formulation. In most of the cases, the survival strategy is evasion of taxes, paying bribes to officials, and so on. Inclusive development strategies should be integrated with the broader goals to ensure stronger voice of the marginalised. Policies should be aimed at

empowering the small producers in the political space so that they can establish their claims of public goods.

9.2 Policy Perspectives

a) The prime task is to identify clusters having potentials in specializing in the production of specific goods, specific tasks or those that can cater to market niches. This involves a process of not only identifying potential winners, but, by endogenising public intervention evolve concrete projects specific to those clusters.

b) Collective indivisible inputs such as real service centres and training institutes need to be instituted with reasonable levels of autonomy. These should not evolve as limbs of government but should act as separate bodies, the performance of which should be judged on tangible outcomes *viz*. marketability and adaptability to changing circumstances.

c) Evaluation of cluster development should be primarily based on collective efficiency using meso-level parameters such as total output of the cluster, size distribution of units in terms of output and employment, extent of horizontal and vertical linkages, collaborative efforts within the cluster and resilience to fluctuations in changing demand and so on. These should be considered as policy variables instead of looking into parameters related to individual firms.

d) A cluster should emerge as a production zone characterized by products/tasks with a minimum quality standard. Qualities should be standardized, both in reference to final products and tasks. An autonomous body comprising technical experts should take care of the quality control process and it is not a question of judgment only, a subsidiary process should help in upgrading the failures through a continuous process of persuasion and learning.

e) Facilities and subsidies given to small firms at various levels should encourage clustering and cooperative competition. Within a cluster a firm participating in joint action, participating in bulk raw material purchase, introducing new technologies or contributing in workers' training should be preferred against those who do not. This helps in building the critical core, which becomes self-

perpetuating and creates a different norm of performance and a structure of rewards and punishments.

f) Policies should aim at exposing the cluster to new challenges of competition such that linkages between firms do not get rigidly defined. At the same time, some kind of regulation is required to encourage/discourage new start-ups such that easy entry does not generate a race to the bottom.

g) Proper execution of labour rights is not only required, but also needs to be promoted through the reward-punishment structure. The skills of labourers specific to a production process should be defined and codified by a training institute and minimum wages for each level should be paid. Cluster level trade-unions should be encouraged and wage-bargain on the basis of productivity should be facilitated. Facilities provided to the workers in the work place need to be strictly monitored. However, formulating norms that are specific to the production process need to be taken into account in place of blanket generalizations.

h) Apart from basic physical infrastructures such as roads, water and power supply, public investments are required for human development. Dedicated departments for research and development of related products should be instituted and required inputs be regularly disseminated within the cluster. On the other side, vocational trainings in local schools would help in maintaining the supply of skilled labour force in the cluster.

i) The government should encourage financial transparency and disclosure such that complex issues related to SME finance becomes more tractable. Apart from bank-credits, several other avenues such as credit guarantee schemes, venture capital, equipment and inventory financing and so on might increase the outreach of credits available to small firms.

j) A process of regional planning should evolve primarily to take care of the issues specific to the region. This involves a political process and the voice of the cluster should be adequately represented in that process to appreciate their claims in the public good not as individuals or households but with the defined identity of a cluster.

Reference

Akerlof, G. (1982) 'Labour Contracts as Partial Gift Exchange', *Quarterly Journal of Economics*, Vol. 97, No.4, pp. 543-594.

Banerjee, Nirmala and Millie Nihila (1999), 'Business Organisation in the Leather Industries of Calcutta and Chennai' in Amiya Kumar Bagchi (ed.) *Economy and Organisation Indian Institutions under the Neoliberal Regime.*

Baumol, W.J. (1959), *Business Behaviour, Value and Growth*, Macmillan, New York.

Boomgard, J. S. Davies, S. Haggblade and D. Mead (1992), 'A Subsector Approach to Small Enterprise Promotion and Research', *World Development,* Vo.20, No.2, pp. 199-212.

Bowles, Samuel and Herbert Gintis (1990) 'Contested Exchange: New Micro Foundations for the Political Economy of Capitalism', *Politics and Society*, Vol.8, No.2, pp. 165-222.

Brusco, Sebastiano (1982), 'The Emilian Model: Productive Decentralization and Social Integration', *Cambridge Journal of Economics*, Vol.6, No.2, pp.167-184.

Cawthorne, P. (1995), 'Of Networks and Markets: The Rise of a South Indian Town: The Example of Tiruppur's Cotton Knitwear Industry', *World Development,* Vol.23, No.1, pp. 43-56.

Council for Leather Exports (2008), *Leather Clusters in India*, Chennai, India

Development Commissioner (MSME), *Third All India Census of Small Scale Industries.*

Dupont, Veronique (1998), 'Industrial Clustering and Flexibility in the Textile-printing Industry of Jetpur (Gujarat)' in Philippe Cadene and Mark Holmstrom (ed.), *Decentralised Production in India*, French Institute of Pondicherry, Sage Publications, New Delhi/ Thousand Oaks/ London.

GOI, (1956), Industrial Policy Resolution.

Goyal, S.K., K.S. Chalapati Rao, M.R. Murthy and K.V.K. Ranganathan (2004), Review of Existing Policies in India and Uttar Pradesh, ISID study for the ILO

Hansohm, D. (1992), 'Small Enterprise Flexibility in Sudan', *IDS Bulletin,* Vol.23, No.3, pp. 39-44.

Holmstrom Mark (1994), 'Bangalore—As Industrial District: Flexible Specialisation in a Labour Surplus Economy?', *Pondy Papers in Social Sciences*, No.14, French Institute, Pondicherry.

Humphrey John and Hubert Schmitz, (1996), 'The Triple C approach to Local Industrial Policy', *World Development*, Vo.24, No.12, pp. 1859-1877.

Hussain Abid, (1997), 'Report of the Expert Committee of Small Enterprises', National Council of Applied Economic Research, New Delhi.

Imbs, J. and R.Wacziarg (2003), 'Stages of Diversification', *American Economic Review*, 93(1): 63-86.

Knorringa, Peter (1999), 'Agra: An Old Cluster Facing the New Competition', *World Development*, Vol.27, No.9, pp.1587-1604.

Kuznets, Simon (1971): *Economic Growth of Nations: Total Output and Production Structure*, Cambridge Mass.

Marshall, A. (1948), *Principles of Economics*, 8th edition, Macmillan, New York.

Mathew, E.T. (2006): *Employment and Unemployment in India: Emerging Tendencies during Post-Reform Period*, Sage Publications, New Delhi

Nadvi, Khalid and Hubert Schmitz (1998), 'Industrial Clusters in Less Developed Countries: Review of Experiences and Research Agenda' in Philippe Cadene and Mark Holmstrom (ed.) *Decentralised Production in India*. French Institute of Pondicherry, Sage Publications, New Delhi / Thousand Oaks / London

Nadvi, Khalid and S. Kazmi (2001), 'Global Standards and Local Responses: Case Study from Pakistan', *mimeo*, Institute of Development Studies, Brighton, Sussex, UK.

Nalbi, Mustapha K. and Jeffrey B. Nugent (1989), 'The New Institutional Economics and Its Applicability to Development', *World Development*, Vol.17, No.9, pp. 1333-1347.

NSSO (1998): NSS 51st Round (July 1994-June 1995); No 434 (51/2.2/2) *Unorganised Manufacturing Sector in India: Salient Features.*

– (2002): NSS 56th Round (July 2000-June 2001); No.477 (56/2.2/1) *Unorganised Manufacturing Sector in India: Key Results*

– (2006): NSS 61st Round (July 2004-June 2005); No.515 (61/10/1) *Employment and Unemployment Situation in India, Part-I.*

— (2007): NSS 62nd Round (July 2005-June 2006); No. 524 (62/2.2/1) *Operational Characteristics of Unorganised Manufacturing Enterprises in India.*

Okada Aya (2007), 'Small Firms in the Indian Software Clusters: Building Global Competitiveness' in S.R. Hasim and N.S. Siddharthan (ed.) Forthcoming volume *Hi Tech Industries, Employment and Global Competitiveness*

Planning Commission, Govt. of India (2006), 'Towards Faster and More Inclusive Growth: An Approach to the 11th Five Year Plan.

Rabellotti, Roberta (2001), 'The Effect of Globalisation on Industrial Districts in Italy: The Case of Brenta', IDS Working Paper 144, *IDS Working Paper* 152, Institute of Development Studies, Brighton, Sussex, UK.

Roy, Satyaki (2007): 'Do Minimum Wages Reduce Employment in Small Enterprise Clusters', *Indian Journal of Labour Economics*, Vol. 49, No. 4, pp. 709-719.

Salais, R. and M. Storper (1992), 'The Four 'Worlds' of Contemporary Industry', *Cambridge Journal of Economics*, Vol.16, No.2, pp. 169-193.

Sandesara, J.C. (1988), 'Small-scale Industrialisation: The Indian Experience', *Economic and Political Weekly*, Vol.23, No.13, pp.640-654.

Schmitz, Hubert (1992), 'On the Clustering of Small Firms', *IDS Bulletin*, Vol.23, No.2, pp. 64-68.

Schmitz Hubert (1999), 'Collective Efficiency and Increasing Return', *Cambridge Journal of Economics*, Vol.23, No.4, pp. 465-483.

Schmitz, Hubert and Bernard Musyck (1994), 'Industrial Districts in Europe: Policy Lessons for Developing Countries', *World Development*, Vol.22, No.6, pp. 889-910.

Sengupta, Nirmal (2001), *A New Institutional Theory of Production: An Application,* Sage Publications, New Delhi.

Sreenivasan, Kasthuri (1984), *India's Textile Industry: A Socio-economic Analysis*, Coimbatore: The South Indian Textile Research Association.

Swaminathan, Padaini and J. Jeyaranjan (1994), 'The Knitwear Cluster in Tiruppur: An Industrial District in the making?', *Working Paper No.124*, Madras Institute of Development Studies, Chennai.

Tendler, Judith and Monica Alves Amorim (1996), 'Small Firms and their Helpers: Lessons on Demand', *World Development,* Vol.24, No.3, pp. 407-426.

Tewari, Meenu (1998), 'The State and the Shaping of the Conditions of Accumulation in Ludhiana's Industrial Regime: An Historical Interpretation', in Philippe Cadene and Mark Holmstrom (ed.) *Decentralised Production in India*. French Institute of Pondicherry, Sage Publications, New Delhi/ Thousand Oaks/ London.

Tewari Meenu (2006), 'Is Price and Cost Competitiveness Enough for Apparel Firms to Gain Market Share in the World after Quotas? A Review', *Global Economy Journal*, Vol. 6, Issue 4, Article No. 5

Tyabji Nasir (1989), *The Small Industries Policy in India*, Oxford University Press, Calcutta.

UNCTAD (2005): 'TNCs and the Removal of Textiles and Clothing Quotas', *United Nations*, Geneva.

UNIDO: *Industrial Development Report 2009*: Breaking In and Moving Up: New Industrial Challenges for the Bottom Billion and the Middle-Income Countries.

Vander-Loop, Theo (1994), 'Structure and Dynamics of Labour Market Fragmentation: Divisions among Construction Labourers in South India', *Indian Journal of Labour Economics,* Vol.37, No.3, pp. 423-436.

Watanabe, Susumu (1978), 'Technological Linkages between Formal and Informal Sectors of Manufacturing Industries', *Working Paper No.34*, World Employment Programme Research, ILO, Geneva.

Williamson, Oliver E (2000), 'The New Institutional Economics: Taking Stock, Looking Ahead', *Journal of Economic Literature*, Vol.38, September, pp. 595-613.

Williamson, Oliver E. (2002), 'Economic Institutions and Development: A View from the Bottom' in Satu Kahkonen and Mancur Olson (ed.), *A New Institutional Approach to Economic Development*, Vistaar Publications, New Delhi.

You, Jong-II (1995), 'Small Firms in Economic Theory: Critical Survey', *Cambridge Journal of Economics,* Vol.19, No.3, pp. 441-462.

Survey Schedule on Leather Goods Producing Units Kolkata (West Bengal)

Project Name: SME Clusters in India: Identifying Areas of Intervention for Inclusive Growth Implementing agency: ISID, New Delhi, Project funded by: Planning Commission, Government of India

Note separately the name address of the establishment and assign a specific number

Please tick (√) the relevant option wherever application

Existence and Ownership

Establishment number: _____

Location: _____

Are your firm with a single factory establishment? Yes/no.

If no, how many other factories does it have _____

Is there any formal existence: Yes-1; No-2 _____

If yes, authority of registration:
(Municipal corporation, panchayat, local bodies -1;
khadi and village industries commission -2;
state directorate of industries -3; development commissioner,
handicrafts/handlooms/powerlooms- 4;
section 85 of factories act- 5; others (specify) -6.) _____

Type of Ownership (Individual Proprietorship-
1; Joint Family (HUF)- 2; Partnership- 3;Public Limited Company- 4;
Private Limited Company- 5; Others (specify)-6 _____

Year of incorporation _____

Home town of the owner _____

Gender of owner/majority shareholder (Male-1/female-2) _____

Religion of the owner/majority shareholder _____
(Hindu -1; Muslim -2; Sikh – 3; Christian -4; Buddhist -5, Others (specify) -6).

Caste of the owner/majority shareholder _____
(Forward -1; Backward -2; Scheduled Caste -3; Scheduled
Tribe -4; Not applicable -5)

What is the highest level of education completed by owner/majority shareholder? _____
(a university education- 1; higher secondary school education – 2;
high school education- 3; middle school education- 4; primary school education- 5;
no formal education- 6).

Previous occupation of the owner: in leather units as worker/superviser-1;
occupation other than leather related-2; if2 specify _____

Production Related Information

Final product : _____

Raw materials used _____

Tools used _____

Intermediate products if any _____,_____

Is there any seasonal fluctuation in output yes-1; no-2 _____

If yes, duration of peak season_____months.

Average output during peak season (in physical units)_____(monthly/weekly)

Average value of total output per unit (peak) _____(monthly/weekly)

Average value of total output per unit (off)_____(monthly/weekly)

Value of fixed assets (incl.land,building, plant and machinery,tools, fixed rents)_____

Any addition in fixed assets in the last one year _____

Sources of raw material_____(self-procured-1;supplied by the parent firm-2; both-3)

Sources of credit_____(formal credit-1;trade credit from parent firm-2; family/friends-3 other informal credit-4)

If not '1', why?_____(previous record of non repayment-1; needs collateral and other administrative costs-2; need little working capital so don't rely on formal loans-3)

Specify if any other reasons _____

Sources of design _____(own produced-1; provided by parent firms-2; both-3)

Average duration of a specific design _____

Is there any institutional support in providing designs_____yes-1;no-2

Destination of sales (directly/indirectly)_____

Any purchase from public agencies (specify)_____

Labour Related Issues

Occupational categories a)_____

b)_____

c)_____ d)_____ e)_____

f)_____ g)_____ h)_____

Is status of employment related to occupation categories? Yes-1; No-2;

If yes, specify_____

No. of permanent employees (core workers):

No. of contract/casual workers (non-core):

No. of unpaid family members involved:

Total number of workers (incl. Owner if he/she works on regular basis)

Peak season total _____

Off season total _____

Weekly labour-output ratio

_____ permanent workers _____ noncore workers together produce_____ units of goods during peak period.

_____ permanent workers _____ noncore workers together produce_____ units of goods during off season.

Average daily/weekly wages of workers in different occupations ;

a)_____ b)_____ c)_____d)_____ e)_____ f)_____

Average working hours per day_____

Is there any regular wage revision for workers? Yes-1; no-2.

How long the workers working in the same enterprise?(five workers)

a)_____ b)_____ c)_____ d)_____ e)_____.

Average wage bill (weekly/monthly) peak season_____ off season_____

How do workers attain skills?(five workers)a)_____ b)_____ c)_____ d)_____ e)_____

(formal training-1; on the job training-2; working in family enterprise-3; others-4)

Specify if the owner is aware of more advanced technology_____ yes-1; no-2.

What are the major hindrances to adopt such technologies?

_____

Do you perceive any change in production technology in the last five/ten years?

_____ yes-1; no-2; if yes, specify_____

Is there any change in demand in the past six/eight months _____ (specify the approximate magnitude)

(increased-;decreased-2)

Production organisation and Forward Linkages

Nature of subcontracting _____

(produce the whole product and sell in the spot market-1; produce for a specific parent firm-2; produce for many parent firms-3; mix of 2&3-4; others-5)

Competition with similar sized firms is based on _____

(design-1; supply-price-2;long-term clientele relation-3; all-4; others-5)

In case of subcontracting what is the average share of value realised in each delivery_____

Is there any procedure of revising the supply price contingent upon fluctuations in input prices?_____ yes-1; no-2; If yes state how?_____

Average rate of rejection in each delivery?_____

Perceptions on problems faced by the entrepreneur in expanding the scale of operation:

Nature of problems	No problem	Degree of problem
Constraints in demand	0	1 2 3 4
Absence of proper knowledge about market	0	1 2 3 4
Access to credit	0	1 2 3 4
Availability of raw materials	0	1 2 3 4
Labour activism	0	1 2 3 4
Business regulations	0	1 2 3 4
Physical infrastructure	0	1 2 3 4

Any other special features need mention

Survey of Garments and Related units in Tiruppur

Project Name: SME Clusters in India: Identifying Areas of Intervention for Inclusive Growth
Implementing agency: ISID, New Delhi
Project funded by: Planning Commission, Government of India

Name of the Firm:

Nature: (FTE, FSE, FLF, SF, AF)

Year of incorporation_____

Previous occupation of the owner _____

What are the major final products?_____

Major inputs and related backward linkages _____

Is there any fluctuation in demand (causes)_____

Major destinations of sale _____

Share of exports in total output_____

Number of workers employed: a. permanent (core)_____;
peripheral_____;

Major determinants of competitiveness (domestic)_____

Major determinants of competitiveness (export)_____

Total capacity of production_____

Percentage of capacity utilised on an average_____

Present value of fixed assets _____

Average output in physical units _____ (monthly/weekly)

Average output in Rs._____ (monthly/weekly)

Average raw material cost Rs. ._____ (monthly/weekly/per unit)

Average labour payment Rs. _____ (monthly/weekly/per unit)

Details of the trajectory of growth

a. Milestone years:
b. Opportunities utilised (demand/supply side)
c. Access to credit
d. Other institutional support
e. Designs and product innovation

f. Present state of technology

g. Frontier technology and reasons for technology gap

Is there any subcontracting relation with smaller firms

State the nature of subcontracting (input, technology, quality)

Labour issues:

a. Categories of labour:

b. Mode of wage payment:

c. Average wage rates:

d. Recruitment of skilled/unskilled

e. Role of labour contractors

f. Training with changing technology

g. Vertical mobility

h. Turnover of labour

i. Labour regulation

j. Labour activism

k. Employment of female and child labour

Perceived impact of recession:

a. Change in Output/Sale

b. Employment (mode of adjustment):

c. Competition (mode of adjustment)

Role of Institutions:

a. Tax and Tariff Policy

b. Regional Governance

c. Local Governance

d. Export and other service providers

e. Training and designing

Perceptions about constraints on growth:

Some broad issues to be discussed

Historical trajectory of the cluster (domestic to export orientation)

Distribution of units (in terms of employment; typology)

Growth trajectory (no.of units; output; employment; export)

Change in the nature of goods

Changes in technology

Change in the labour process

Training and Recruitment

Major changes in wage/remuneration

Major competitors in the domestic market

Major competitors in the export market

Integration with big outlets

Problems in Infrastructure

Input suppliers

Caste and gender dimension

Entry barriers

Policies influencing the cluster (national; regional;local)

Impacts of recession

Adjustment to declining orders

Survey of Garments and Related units in Delhi

Project Name: SME Clusters in India: Identifying Areas of Intervention for Inclusive Growth
Implementing agency: ISID, New Delhi
Project funded by: Planning Commission, Government of India

Name of the Firm: Owner/Manager:

Single/ Multiple establishment:

Year of incorporation: Background of the owner:

Registration: Type of ownership:

Previous occupation of the owner _____

What are the major final products?_____

Change in the nature of products:

Major inputs and related backward linkages _____

Is there any fluctuation in demand (causes)_____

No. of months in operation:

Major destinations of sale _____ Share of sale to public agency (if any):

Share of exports in total output_____

Integration with big outlets:
Number of workers employed: a. permanent (core)_____; peripheral_____;

Major determinants of competitiveness (domestic)/competitors_____

Major determinants of competitiveness
(export)/competitors_____

Total capacity of production_____

Net addition in plant and machinery during last one year:

Percentage of capacity utilised on an average_____

Present value of fixed assets _____; machinery:

Ratio of internal/external funds:

Average output in physical units _____ (monthly/weekly)

Average output in Rs._____ (monthly/weekly)

Average raw material cost Rs. ._____ (monthly/weekly/per unit)

Average labour payment Rs. _____ (monthly/weekly/per unit)

Details of the trajectory of growth:

Give the data for initial year of operation. After starting operation milestone years of increasing capacity and employment, please describe.

Year	Fixed Assets (Rs.)	Employment	Planned capacity	% of avg. capacity utilisation	Factors behind starting up and change
First year					
Milestone year					

h. Milestone years:

i. Opportunities utilised (demand/supply side)

j. Access to credit

k. Other institutional support

l. Designs and product innovation

m. Present state of technology/ change in technology

n. Frontier technology and reasons for technology gap

Is there any subcontracting relation with smaller firms/ home workers:

State the nature of subcontracting (input, technology, quality)

Labour issues:

l. Categories of labour:

m. Sex ratio within production workers:

n. Mode of wage payment:

o. Average wage rates:

p. Recruitment of skilled/unskilled

q. Is there any need to maintain excess labour:

r. Role of labour contractors

s. Training with changing technology

t. Vertical mobility

u. Turnover of labour

v. Labour regulation

w. Labour activism

x. Employment of female and child labour

y. Total Wage Bill: wage share to total cost of production:

z. Change in labour process:

Infrastructural issues and institutions:

a. Electricity (avg. interruption/day): Use of generators:

b. Share of self generation/total use:

c. Roads/ Ports:

d. Access to land:

Water supply:

Role of Institutions/regulations:

f. Tax and Tariff Policy/ Custom and trade regulations

g. Governance (crime threat and disorder):

h. Export and other service providers:

i. Training and designing:

Perceived impact of recession:

d. Change in Output/Sale

e. Employment (mode of adjustment):

f. Competition (mode of adjustment)

Perceptions about constraints on growth:

a. Telecommunications 0 1 2 3 4
b. Electricity 0 1 2 3 4
c. Transportation 0 1 2 3 4
d. Access to Land 0 1 2 3 4
e. Tax rates 0 1 2 3 4
f. Tax administration 0 1 2 3 4
g. Customs & trade regulation 0 1 2 3 4
h. Labour regulation 0 1 2 3 4
i. Business licensing & operating permits 0 1 2 3 4
j. Access to finance (e.g collateral) 0 1 2 3 4
k. Cost of finance (e.g. interest rates) 0 1 2 3 4
l. Corruption 0 1 2 3 4
m. Crime, threat & disorder 0 1 2 3 4
n. Timely availability of raw materials 0 1 2 3 4

Other issues of importance:

Survey of Footwear and Related units in Agra, U.P.

Project Name: SME Clusters in India: Identifying Areas of Intervention for Inclusive Growth
Implementing agency: ISID, New Delhi
Project funded by: Planning Commission, Government of India

Name of the Firm: Owner/Manager:

Single/ Multiple establishment:

Year of incorporation: Background of the owner:

Registration: Type of ownership:

Previous occupation of the owner _____

What are the major final products?_____

Change in the nature of products:

Major inputs and related backward linkages _____

Is there any fluctuation in demand (causes)_____

No. of months in operation:

Major destinations of sale _____ Share of sale to public agency (if any):

Share of exports in total output_____

Integration with big outlets:
Number of workers employed: a. permanent (core)_____; peripheral_____;

Major determinants of competitiveness (domestic)/competitors_____

Major determinants of competitiveness
(export)/competitors_____

Total capacity of production_____

Net addition in plant and machinery during last one year:

Percentage of capacity utilised on an average_____

Present value of fixed assets _____; machinery:

Ratio of internal/external funds:

Average output in physical units _____ (monthly/weekly)

Average output in Rs._____ (monthly/weekly)

Average raw material cost Rs. ._____ (monthly/weekly/per unit)

Average labour payment Rs. _____ (monthly/weekly/per unit)

Details of the trajectory of growth:

Give the data for initial year of operation. After starting operation milestone years of increasing capacity and employment, please describe.

Year	Fixed Assets (Rs.)	Employment	Planned capacity	% of avg. capacity utilisation	Factors behind starting up and change
First year					
Milestone year					

o. Milestone years:

p. Opportunities utilised (demand/supply side)

q. Access to credit

r. Other institutional support

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t. Present state of technology/ change in technology

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aa. Categories of labour:

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ee. Recruitment of skilled/unskilled

ff. Is there any need to maintain excess labour:

gg. Role of labour contractors

hh. Training with changing technology

ii. Vertical mobility

jj. Turnover of labour

kk. Labour regulation

ll. Labour activism

mm. Employment of female and child labour

nn. Total Wage Bill: wage share to total cost of production:

oo. Change in labour process:

Infrastructural issues and institutions:

e. Electricity (avg. interruption/day): Use of generators:

f. Share of self generation/total use:

g. Roads/ Ports:

h. Access to land:

Water supply:

Role of Institutions/regulations:

j. Tax and Tariff Policy/ Custom and trade regulations

k. Governance (crime threat and disorder):

l. Export and other service providers:

m. Training and designing:

Perceived impact of recession:

g. Change in Output/Sale

h. Employment (mode of adjustment):

i. Competition (mode of adjustment)

Perceptions about constraints on growth:

a. Telecommunications 0 1 2 3 4 b. Electricity 0 1 2 3 4
c. Transportation 0 1 2 3 4 d. Access to Land 0 1 2 3 4
e. Tax rates 0 1 2 3 4 f. Tax administration 0 1 2 3 4
g. Customs & trade regulation 0 1 2 3 4 h. Labour regulation 0 1 2 3 4
i. Business licensing & operating permits 0 1 2 3 4 j. Access to finance (e.g collateral) 0 1 2 3 4
k. Cost of finance (e.g. interest rates) 0 1 2 3 4 l. Corruption 0 1 2 3 4
m. Crime, threat & disorder 0 1 2 3 4 n. Timely availability of raw materials 0 1 2 3 4

Other issues of importance: