CHAPTER 8
EXPORT ORIENTATION AND INDUSTRIAL CLUSTERING:
THE SALIENT ASPECTS

8.1 Background
This chapter seeks to explain economic organisation and the specific relationship between export orientation and industrial clustering in the Indian leather and leather products industry on the basis of the information presented in the Chapter 7. Answers specific to the phenomenon of clustering are provided in this chapter keeping in view the major arguments that have been raised in the literature. The broader questions essentially have to do with how clustering as an organisational form has contributed to the structure and pattern of organisation in a traditional, export oriented industry like the leather and leather products industry in India, as well as how it has influenced production and export performance in the industry. The answers to the broad questions are presented in the conclusion.

It may be recalled that the specific questions regarding the nature of clustering in the leather and leather products industry in India that were considered were the following:

1) What is the extent of clustering in the two clusters being considered- i.e., their size and depth in terms of kinds and size of enterprises, what stages of the production process are present, the presence or not of producer and ancillary services, of associations, and the like.

2) What are the different kinds of organisational forms that exist in the clusters and what determines organisational structure as well as the similarities and differences? Can the organisational forms be distinguished on the basis of the formal sector-informal sector distinction?

3) What determines the size of factories, i.e., why are most units in the industry small? What is the relationship between size and policy on the one hand and between size and the nature of markets, nature of the production process and technology on the other? What is the link between size and the degree of mechanisation as well as between size and the degree of technology acquisition/upgradation?
4) What are the extent of inter-firm linkages, vertical and horizontal, as well as inter-firm division of labour and how have these changed over time? Is there a link between size and the degree of vertical integration?

5) How have these organisational forms changed in response to changing market conditions and policy over time? Can the structure be characterised as a flexible one?

6) What are the different patterns of labour market structures and labour processes? How does the labour market contribute to the flexibility seen in production organisation?

7) What are the ways in which social institutions such as caste and family affected organisational structure as well as modes of responding to new markets, new technology, etc? Have advances in the productive sphere been associated with the breaking down of such institutions?

8) What has the role played by government and such institutions been in the clusters and the industry?

9) How can the two clusters in the industry be characterised?

These questions, both general and specific, have been answered both directly as well as with reference to the different arguments that have arisen in the literature on industrial clustering and for explaining economic organisation in the leather industry in India. The study referred for the latter is by Banerjee and Nihila (1999), as mentioned in the introduction, and compares the leather industry in Calcutta and Madras from the point of view of which cluster has been more dynamic in responding to changing market conditions as well as the factors that contribute to the dynamism or retrogression as the case may be.

They, in comparing the Madras and Calcutta clusters, argue that the leather industry in Calcutta has been unable to respond to the possibilities presented by changing international demand for India’s leather and leather products because of certain institutional features that inhibit a dynamic response to changing market conditions. These changing market conditions have been characterised by the increasing opportunities provided by the Western European and American markets along with the collapse of the large markets in the former Soviet Union and Eastern Europe. The Calcutta leather industry, it is argued, found it difficult to switch to the lucrative western markets with the collapse of the Soviet and East European markets because of
the institutional set-up and preferred to switch to production for sub-standard markets within the country. In Madras (and Tamil Nadu in general), by contrast, the leather industry was able to respond immediately to the crisis imposed by the disappearance of the Soviet market by tapping more lucrative Western markets. This, it is argued, is due to the more favourable institutional structure in Madras than in Calcutta. These institutional features consist of certain characteristics of the agents operating in the industry, the structure of the credit market, the nature of labour relations and the nature of markets catered to.

In Calcutta, it is argued, the tannery segment consists mostly of small scale tanneries that use backward technology to cater to a market within Calcutta and other parts of the country that is not conscious about quality. Apart from a few relatively larger tanneries that undertook investment in modern machinery, including computerised machines, to tap the quality conscious Western market, most tanneries kept out of modernisation in any significant manner in spite of the possibility of earning higher returns in exports to western countries which could have been achieved with modernisation. Even those tanneries (very few in number) which had better information about market conditions and had capital chose only to modernise those segments in which they enjoyed an advantage due to knowledge about markets or better processes, and preferred to subcontract older processes to other less modern firms. This, according to them, has worked to the advantage of both kinds of firms in the short run because it allows older firms to get work without modernisation, as well as allows newer firms to tap the benefit of existing skills and knowledge without paying the premium for these. In other words, the kinds of interlinkages that have worked out between firms in Calcutta, as distinct from Madras, work to the detriment of the cluster in a long-term sense by allowing firms to get away from incurring costs towards modernisation. In terms of the cluster literature, there is no inherent tendency towards 'endogenous upgrading' in the Calcutta cluster. On the other hand, however, the majority of tanneries were found to have integrated too many operations in-house and not to have judiciously given out work to jobworkers (except in the kind of case mentioned above) to take advantage of division of labour and specialisation. In other words, one of the obvious advantages of clustering, i.e., the economies of specialisation, has not been recognised and reaped by the Calcutta tanneries, it is
implied. Where it has been done, it has been done with the express intention of saving costs of modernisation and not to increase efficiency.

Several possible factors have been identified that have resulted in this kind of attitude by firms in Calcutta. First, the nature of the markets catered to. Most of the firms in Calcutta, it is argued, are family owned firms that had been operating as such for generations, owned mostly by Chinese or Muslim entrepreneurs, operating mostly with family funds and producing for an assured but quality compromising market consisting of local and other domestic leather product makers in the domestic market and the low quality export market in the former Soviet Union and Eastern Europe. The local market within the city as well as the domestic market outside the city is multilayered with each layer representing a different price quality segment and tanneries find it relatively easy to sell leather of almost any quality to a highly diversified product market. In contrast, tanneries in Madras do not face such a multilayered domestic market and have concentrated on the export market that has forced them to upgrade quality through greater mechanisation.

Second, the nature of the agents in the production process in the industry. The majority of the tanning enterprises in Calcutta, according to the study, were found to be characterised by a reluctance to increase in size or to tap the market for investible funds to undertake modernisation and produce for a lucrative export market in the non-rupee-export segments, as explained above. Tanners in this segment are relatively tradition bound and found a ready market for their products at remunerative prices in a multilayered market, not forcing them to look for more lucrative markets. An example of this is found in the fact that among other things most of them were limited at the pre-production stage by a shortage of good raw material. The expertise to grade and sort raw material being a specific asset in this industry, it was not available to most small entrepreneurs in Calcutta who also lacked the family connections to obtain it, and this asset specificity could have been a specific hindrance faced by them in Calcutta. In Madras, in contrast, where the necessity to sort and identify good raw material from an equally unstandardised raw material market existed as in Calcutta, this expertise was available as a marketed service as a larger number of firms were

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1 Banerjee and Nihila (1999) do not refer to the phenomenon in terms of the clustering literature. This interpretation is mine and is intended to place the argument in terms of the literature.
looking for standardised inputs and firms bought this service. In other words, tanneries in Calcutta were found to be inherently backward in their approach to expansion of firm size\(^2\), the hiring of specialists for specialised operations such as raw material purchases, and the access to credit.

Apart from the inward looking nature of the majority of the entrepreneurs, the organisational structure in Calcutta also consists of well-entrenched intermediaries in all the processes from the collection of raw hides and skins to the production of final products. The existence of this dead-weight of intermediaries “belonging to different minority groups who had a vested interest in the present system of operation ...(who) themselves were locked into these operations for want of alternative livelihoods”\(^3\) resulted in a situation where any attempt to break out of these networks would be very difficult and thus any change in the existing organisation of production would be difficult to envisage. In Madras, however, traditional caste and community links had been breaking down continuously and this well entrenched system of intermediaries that interfered severely with the production process, therefore, did not exist.

Third, differences in the availability of credit for undertaking modernisation. The study observed that there was credit rationing for the leather industry in both the clusters, but units in Chennai found it easier to avail of whatever credit was available than those in Calcutta because banks in Calcutta were found to be more conservative as far as lending to the tanning industry was concerned.

Fourth, the nature of the labour force in Calcutta and Madras. It is argued that relations between entrepreneurs and workers have been particularly antagonistic, this being aggravated by militant trade unionism in more recent times in Calcutta. Further, it is also argued that workers from the Chamar community have been resistant to work with machines and this has prevented employers undertaking training of workers to work with new machines in the large majority of enterprises. In Madras, on the other hand, there are no active unions, there are few instances of active antagonism between workers and entrepreneurs, and workers have by and large welcomed technological

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\(^2\) This implied that the attitude of the majority of entrepreneurs in Calcutta automatically put a ceiling on the size of the firm, where it could expand no more than the owner's personal capacity to manage purchases as well as other entrepreneurial functions.

\(^3\) (Banerjee and Nihila 1999), p159.
upgradation. This, according to the study, is because employers' association have played an active role in making benefits such as a provident fund, employees' health insurance and dearness allowances available to the workers.

Given poor labour relations, greater social embeddedness of economic transactions, non-availability of long-term investible funds, a reluctance to undertake technological upgradation, and an unwillingness to seriously tap more lucrative markets, the study concludes that the Calcutta industry is "like a house of cards, where several fragile and equally outmoded segments are found propping each other up. Any imminent change, like the enforcement of anti-pollution laws on the tanneries, can blow this entire structure down". The Madras industry, as well as the clusters in other parts of Tamil Nadu, has the capacity to respond in modern ways to international challenges, given the changes that have already taken place and the more favourable institutional structure that exists there.

This study, it can be seen, has been influenced heavily by the understanding that institutional features such as caste and community, and the existence of family firms, tend to result in a great deal of inertia where opportunities abound, and it is firms that have broken out of the confines of such 'institutions' that have been able to take advantage of such opportunities. These institutions have a self-perpetuating nature that inhibits a worthy response to the challenges posed by the international market. Moreover, the study also makes a crucial assumption about the nature of opportunities that abound in terms of the availability as well as the quality of the market. In this, Banerjee and Nihila reflect what I have called the 'dominant view' on the opportunities provided by international markets. This view, that also comes across in a major part of the literature on industrial clustering, argues that exposure to export markets unequivocally upgrades production facilities in developing countries through competition and a greater emphasis on quality, that very often internal institutional factors prevent this upgradation through a resistance to change, and that changing internal conditions as well as institutions is what is essential to being able to take advantage of international markets. The dominant view on industrial clustering therefore holds that such upgradation is relatively easy in industries organised in the

\[^\text{4} \text{(Banerjee and Nihila 1999, p183)}\]
form of clusters and addresses the issue in terms of being able to 'create' the right conditions for better performance by addressing 'internal' problems faced by clusters, which will generate the possibility of taking advantage of favourable 'external' conditions. These 'internal' conditions, especially in a traditional industry in a developing economy, it is argued, largely consist of outmoded social institutions and attitudes that function at cross-purposes with the international market.

The following sections take up these arguments as well as answer the questions set out initially.

8.2 Organising Production- Size, Scale, Technology and Interlinkages.

Beginning with the specific questions on economic organisation and the nature of clustering in the leather and leather products industry in India, sections 7.2 and 7.3 in the previous chapter showed that both the clusters studied are typical small scale clusters with the majority of the units being small in scale, as seen elsewhere in the world, with a wide range as well as depth. Thus, there are, in addition to the main production units, a large numbers of raw material dealers, machinery and chemical suppliers and repair workshops in both clusters. Of the eight types of enterprises studied, tanneries doing jobwork or product fabricators (those doing part processes or producing for others) are all small scale enterprises, whereas independent or group tanneries or product making units belong to both the small scale as well as the medium and large scale segments, with the former dominating. Today, therefore, while there are a significant numbers of medium and large-scale units in the tannery as well as the product making segments, they all evolved from small scales. In this sense, the clusters are similar to typical small-scale differentiated clusters that are found in developing countries. In India itself, they are similar in size and depth to the Tiruppur garment cluster (see Swaminathan and Jeyarangan (1999), Neetha (2000), and Bhattacharya (1999)) and the Agra footwear cluster (see Knorringa (1996, 1999, etc) just to name two. However, a major difference between these clusters and the leather clusters of Madras and Calcutta is that the latter have been catering to the

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5 The Tiruppur garment cluster in 1997 consisted of about 3850 knitwear units as well as a large number of ancillary and supporting units (Bhattacharya 1999). The Agra footwear cluster consisted of 5000 manufacturing units employing 60000 persons in 1990-91 and about 450-475 enterprises supplying inputs to manufacturers of footwear, and about 225 enterprises engaged in wholesale trade of footwear.
export market from colonial times, with the domestic market growing along with the growth of the industry, whereas in Tiruppur and Agra, export production has taken place after a substantial period of producing exclusively for the domestic market. Clusters emerged in the leather industry directly in response to demand from the international market, as Chapter 4 showed, and given their export orientation from very early on, their later development was mostly structured by international demand.

The second, third and fourth questions have to do with size of units, forms of organisation, inter-firm linkages, technological upgradation and vertical integration. It has been seen that both clusters contain the whole range of organisational forms presented in Chapter 3, from vertically integrated enterprises with the whole production process internal to the firm to a huge number of units doing part processes and linked to each other vertically or horizontally, with a wide range of intermediate structures in between. In industrial organisation terms, there are a large number of forms between the traditional extremes of market and hierarchy. Whether firms prefer to rely on arms-length transactions with other firms or prefer to vertically integrate has constituted one of the major issues in economic organisation with the extreme options being labelled 'market' and 'hierarchy' (Williamson 1975, 1985). In the context of the clustering literature, this is even more relevant because the possibility of inter-firm linkages being established in a decomposable production process due to proximity is high and can be a matter making choice difficult for a firm.

One of the main findings of this study is that in both Calcutta and Madras, while dense inter-linkages exist, the objective of individual firms in the industry is vertical integration. The process-specialised firm has come into existence to meet market demand, but each firm in turn aspires to integrate forwards or backwards. This is a major difference between the clusters studied here and classical industrial district type forms of industrial organisation, and also many small-scale clusters like Tiruppur. It

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6 Tiruppur's garment cluster started exporting indirectly, i.e., through agents/export houses located in Bombay and Delhi in 1980, and got established as a cluster exporting directly only by the late 1980s. Similarly, Agra's footwear cluster catered primarily to the domestic market with some manufacturers producing for the export market from sometime in the 1980s.

7 It may be recalled that Chapter 3 presented the typology of enterprises in the tannery and product making segments, ranging from small jobwork units to highly mechanised large units in both segments.

8 See Williamson (1975, 1985) and Knorringa (1996).
may be recalled from the discussion on the advantages accruing to the breaking down of the production process between several firms and the associated economies of specialisation that this was a crucial feature of industrial clusters that made a group of firms functioning in co-ordination with each other resemble a giant firm. Even when size-differentiation occurred between firms and relations of dependence emerged, individual firms tended to specialise in particular processes and co-ordinate production as well as marketing activities that made the economic organisation of clusters different from a mere agglomeration of firms. In the clusters studied here, it has been the inability of firms to themselves forge effective production linkages with each other, except to be able to cope with uncertainties of demand by contracting work out to firms at lower levels in the hierarchy, that has resulted in most firms aspiring towards vertical integration. This tendency implies that the classic forms of co-operation and co-ordination of production decisions that are characteristic of industrial clusters and industrial districts may be difficult to generate.

This was also seen in the results obtained from aggregative production data in Chapter 5, where an increase in scales of operation across the board, as well as a growth in the factory sector appeared to indicate a tendency by firms to increase in size as well as add processes and integrate forward or backward. At the same time, the growth in the numbers of Non Directory Manufacturing Establishments and Directory Manufacturing Establishments in all segments shows that these units, which would be of the jobwork tannery or product fabricator type, would need to have strong linkages with larger units within the unorganised sector as well as those in the factory sector, and vice versa.
The structure of production in the ‘production core’ in the clusters is shown in Figure 8.1 and can be described as follows:

At the lowest level designated Level I, there are very large numbers of jobwork tanneries and leather product fabricators involved in hierarchical, vertical relationships with firms that place orders with them. These have come into existence in response to the export thrust⁹ and represent the response to fragmented, highly volatile demand in the international market. These enterprises belong entirely to the informal sector, although it is not clear whether they would, by definitions that have been conventionally used in India¹⁰. As far as the system is concerned, they exist in order to provide the major cushion against the adverse impact of fluctuations in demand. As far as they themselves are concerned, they continue to exist and produce in fairly

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⁹ As mentioned earlier, the growth in the NDMEs and DMEs in the unregistered segment could consist of these Level I enterprises and is a phenomenon that has intensified from the mid-to late eighties, in response to the export thrust.

¹⁰ As mentioned earlier, they would mostly be enumerated under the NDME or DME category within the unorganised sector in which case they would formally be considered informal sector enterprises. In cases where their employment exceeds ten and they use power, they would come under ASI enumeration.
vulnerable circumstances mainly because production is profitable due to extreme employment flexibility and possibly due to the incentives provided by reservation. These enterprises at the same time have the objective of being able to grow into larger enterprises as independent producers and exporters, in keeping with the trajectory of growth seen in the sector as a whole. While there are fabricators who undertake production of full products in some cases, in the majority of cases, these units specialise in particular parts of the production process in the tannery as well as the product making segments and undertake the operations that are considered less skilled or those that warrant less supervision. These firms are strictly not the stage firms that obtain in a classical industrial district, but resemble the 'dependent subcontractor' model discussed in the case of Italy in Chapter 2, which was a precursor to the industrial district stage. It may be recalled that following the wave of decentralisation that took place in Italy in the late 1960s, the small scale units that came into existence essentially as subcontractors were classic sweatshops that used rudimentary technologies, evaded taxes and payments to the social security system, ignored health and safety regulations, and when the market demanded it, insisted on extremely long working hours (Piore and Sabel 1982)(Brusco 1990). These firms got converted into the 'stage firms' that were involved in some specific part of the production process and negotiated on relatively equal terms with firms at previous or subsequent levels, as a result of major intervention by the State as well as the coming into existence of several institutions providing 'real services'. In the leather industry, this transformation has not taken place and the Level I firms are clearly extremely vulnerable.

At the next level, Level II, there are a large number of small scale producers of finished leather and leather products who are either independent producers or produce for a group consisting of many small scale enterprises in different stages of the production process. The small-scale independent enterprises are involved in vertical hierarchical relations with jobwork units or fabricators (depending on what they produce) who either supply specific products to them or undertake specific processes regularly, or in times when demand is buoyant. They are also involved in relatively

11 Sebastiano Brusco (1990)
12 This has been elaborated in Chapter 2 and will come up again for discussion at the end of this chapter.
stable vertical relations with one another, in complementary parts of the production process, and these are more or less independent, equal relationships with little hierarchy. Horizontal relations between similarly placed firms exist as far as negotiating jointly with labour is concerned, and sometimes as far as lobbying is concerned. Collective action has existed as a response to specific contingencies such as abiding by anti-pollution norms as well in Madras, and only with regard to jointly negotiating with trade unions in Calcutta. These small-scale firms form the vast majority of firms in the industry and to a large extent would get covered under the modern small-scale sector.\textsuperscript{13}

The small scale group enterprises, which are the second set of enterprises in Level II, function essentially like vertically integrated firms that undertake tanning as well as product making, with the process beginning with processing raw hides and skins in Calcutta and with semi-finished leather in Madras. Vertical and horizontal relationships are similar to those that obtain in the small independent producers’ case, except that their decisions are based on the group of enterprises taken as a whole. These groups have come into existence from the mid-eighties or so and have been the logical extension of a process of small firm growth. While most of them are registered with different agencies and would fall under ASI enumeration, they employ informal labour extensively and could be said to contribute to the informalisation of labour processes.

The top level, i.e., Level III, consists of medium and large scale enterprises which are independent as well as those that form part of groups. They, in many cases have grown from small scales, sometimes even from fabricator levels. In the tannery segment, they are the result of forward integration from the tannery stage and have minimal, if not no links with the previous two levels. These large tannery-cum-product-making units are more common as well as larger in Madras than in Calcutta. In the product making segment, except for footwear manufacturing firms like the ones which were not visited but whose owners were interviewed in their Madras offices\textsuperscript{14}, they have links with fabricators as well as independent small scale tanneries and

\textsuperscript{13} See Suri(1988)
\textsuperscript{14} These firms have production facilities in other clusters in Tamil Nadu and their owners were interviewed in Madras.
product making units and in many cases have integrated backwards. The large tannery enterprises have grown with the clusters, though they are relatively independent of them today in a production and marketing sense. The product-making segment in the large-scale sector is still dependent on lower levels for flexibility.

The typical trajectory of growth of firms in the industry is as follows: beginning as a jobwork tannery or a product fabricator working purely on orders from larger units that themselves are small scale units, a firm gradually adds machines to do additional tanning or finishing processes in the case of tanneries, i.e., expands the ambit of jobwork operations and gradually tries to get independent customers outside of jobwork. A fabricator, similarly, tries to sell his products independently in the domestic market first and gradually in the export market. Both these grow gradually to small scale independent enterprises that mostly do their own work but also do some jobwork while they remain small scale. Gradually, these small-scale enterprises diversify production with tanneries undertaking some production of leather products where exports are easier to undertake and product making units starting to manufacture different kinds of products. Thus forward integration or horizontal integration take place even as size remains small. Backward integration from product making to tanning is not seen in small-scale enterprises because the levels of investment required to set up full tanning units is high. While the largest numbers of units remain as these two kinds of small-scale enterprises, some expand capacities in tanning as well as product making and turn into medium and large-scale companies. As the enterprises grow in size and scale the relationship with the bottom level declines, but these units in turn continue to retain the ability to do jobwork when demand is slack. Product making units integrate backwards to ensure captive supplies of tanned leather and very often these have been set up on an inter-cluster basis.

Thus vertical integration within the same firm does not necessarily mean the absence of vertical relationships with other firms and this goes side by side with extensive relations with jobwork or fabricating units. These units are also relatively easy to set up, warranting low investment and generating incomes quickly to make production worthwhile. Thus for a typical firm in the industry, the choice is not between whether to make or buy but to retain the facility for both and use both depending on the situation. The situation can be characterised by one of extreme flexibility given the
conditions for profitable production in the conjecture that the industry is faced with. This is true for both clusters.

This implies that the flexibility that is maintained in labour processes that will be elaborated below becomes indispensable for the existence of production flexibility even in the organised sector. It also implies that the simultaneous growth of the unregistered sector that has been seen in this industry becomes an equally indispensable part of the structure.

Questions of whether to vertically integrate or not and also whether the size of the firm remains small or not are crucially dependent on the product being produced and the broad structure described above is true for both clusters. It is also true that while vertical integration is a logical extension of the kind of trajectory that has been seen, the largest numbers of firms in both the clusters have remained small. This is possibly due in large part to reservation, but also due to the nature of the industry, as argued below.

However, there are some differences between Madras and Calcutta and this is dependent on their different histories on the one hand as well as the kinds of products being produced, rather than institutional features such as caste and community being more of constraints in the latter than the former, as Banerjee and Nihila have argued. This will be taken up in the following section, but before that the differences in the sphere of production organisation mentioned above are highlighted and explained here.

It may be argued that size in actual terms has been determined by the specific configuration of the conditions of profitable production prevailing in a given period. These conditions are related also as much to the historical evolution or 'path dependence' of the industry as the factors mentioned above. The major difference lies in the numbers and the size of large firms in the clusters with Madras (and Tamil Nadu in general) having a large number of large modern firms in comparison to Calcutta. This is because of the initial size of capital available in Madras to begin with as well as the relative specialisation that the Madras firms have done in the international market. Chapter 4 showed that the kind of capital that got concentrated
In Madras in tanning was larger due to the greater affluence of the community\(^\text{15}\) that made the investments. In addition, Madras also emerged as a major tanning centre that developed finishing capacity to cater to the international market, with some of the large firms taking the lead. The larger capital available with these firms also enabled them to integrate forward and set up footwear making facilities, with a large part of the operations being automated. Madras is therefore presently the major exporter of finished leather and footwear and a major chunk of this is done by a select number of large tannery-cum-footwear making units. Further, Madras also did not have a history of leather product making as a result of which there was no local market for leather and leather products and almost the entire cluster caters to the export market directly.

By contrast, Calcutta began with smaller capital in the leather industry and with a significant local product making industry existing from colonial times. Due to the history of product making, Calcutta found it easier to specialise in leather good production for the international market too. At present, Calcutta is the major centre for exports of leather goods such as handbags, wallets, briefcases and the kind that have been covered in Section 7. Its tanning industry did not grow in scale to the extent that it did for some firms in Madras (or Tamil Nadu) because it caters primarily to the domestic market, supplying finished leather to both exporters as well as domestic producers of leather footwear and goods. Significant volumes of tanned leather produced in Calcutta are sent to Madras, Agra and Kanpur, where exporters of leather products use it. Thus, while Madras is almost exclusively and directly export oriented, Calcutta supplies leather to exporters, which makes a large part of its production export-oriented. When the Soviet and East European market crumbled, tanneries in Calcutta started to focus on production for direct export as well as indirect exports through sale of tanned leather to exporters in Calcutta as well other clusters. While the argument that the tanning industry in Calcutta concentrated on production for the domestic market is true, it must be remembered that a large part of this was raw material for exporters in different clusters, including Calcutta itself. The impression created, therefore, that the Madras industry is more progressive and modern than Calcutta because it caters to the export market which is more discerning and demanding, only presents a partial picture which does not capture the dynamics.

\(^{15}\) This consisted of Muslims from the Kutch who migrated to Tamil Nadu in the earlier part of the twentieth century, as seen in Chapter 4.
of production ultimately tailored to the international market which takes place in both clusters. Even when firms produce primarily or exclusively for the domestic market, they form part of the above structure that has developed in response to the vagaries of the international market. This is also borne out by the information presented in Chapter 7 on the nature of transactions between buyers and their agents and producers. It has been seen how production is tailored exactly to suit specification of buyers and transactions are characterised by vulnerability in terms of price, length of contracts, number of competitors, etc for the largest number of producers. Even the largest firms, in the industry, those that have relatively more stable and long-term contracts with their buyers, have very little independence with respect to design and specification of the products being produced. While the nature of transactions and thus the nature of the international market have resulted in this structure, such transactions have been possible also due to inadequate upgradation on the part of firms in the industry.

This brings us to the relationship between size and technological innovation and upgradation. Here, the main concern, as has been mentioned in previous chapters, is whether the clusters have facilitated endogenous innovation by firms and whether the nature of technological upgradation has been sufficient to cater to the needs of discerning international markets. As mentioned above, a major argument advanced by Banerjee and Nihila (1999) is that the Madras cluster is technologically more advanced whereas the Calcutta cluster consists of firms primarily using outmoded technologies, where even firms that have the capital and the know-how to modernise their plants do so only partially and rely for some older processes on older, less sophisticated firms. A major feature that emerges from the fieldwork in this study is that across the board and in both clusters, there has been an increase in mechanisation involving the use of new machines. This is true for large as well as small firms. However, in both clusters it has also been found that there are major problems to do with balancing between machines for different processes, as well as the fact that firms take decisions on modernisation on the basis of whether and how they can link up with other firms or whether they can achieve maximum flexibility in the hiring of labour. Thus, while machinery acquisition has been determined to a large extent by liberal imports of capital goods as well as the emphasis on value-added exports in the export policies for the sector, actual decisions with regard to the nature
of technology upgradation have been circumscribed by the need for flexibility in production and labour processes. This is a major feature in both the clusters and constitutes the nature of the link between clustering and technological upgradation. This point will come up again and is being emphasised here to point out how the nature of the market and of export orientation are crucial determinants of how technological upgradation takes place in the leather and leather products industry.

It has also been seen in Chapter 3 that the nature of technology development, essentially under the auspices of the CLRI, has been in terms of evolving newer materials, better and cleaner processes and appropriate machinery. While a great deal of technology development through R&D has taken place, its application at the firm level has been limited by a number of factors to do with the nature of technology acquisition. For any firm, the acquisition or upgradation of technology involves incurring significant costs in the immediate sense, which might be a deterrent if cost minimisation is the objective. At the same time, newer machines by increasing productivity can potentially deliver even low quality products cheaper if they are done at viable scales. But this invariably needs large investments, a smaller number of players and very importantly, assured, certain markets. So given the nature of markets and the structure of the industry, technological upgradation may not be a feasible or even a desired/rational objective for an individual firm taking atomistic decisions. In the small-firm dominated cluster context, it may become relevant only if cluster level interventions can reduce uncertainties of the export market and then additionally provide information.

In the leather industry, for individual firms, the non-feasibility of going in for technology acquisition at an individual level from the cost point of view has been an important consideration for the vast majority of firms. Apart from the costs involved in technology acquisition itself, a major consideration is the costs of training labour for operations involving improved technology. Technology acquisition has also been limited by the need for flexibility and the ability to hire cheap labour for a large number of operations. Further, the links between technology development agencies and individual firms has been limited as a general case and there are major inadequacies as far as availability of information regarding technological developments and policies are concerned. The firms that have benefited through
interaction with the CLRI are either the large exporting firms in both tanning and product making, or some smaller firms that have been set up by leather technologists. These firms that have effective technical liaisons with the CLRI exist in both clusters. Technology development agencies have focussed, wherever they have, on individual firms, rather than dealing with the cluster as a whole, and this has resulted in larger firms being able to use the knowledge.

In addition, this has been compounded by reluctance on the part of many entrepreneurs to introduce change, as markets for more or less any, quality of leather as well as products which are produced, exist both within the country and outside. This is true for a large number of firms in both Calcutta and Madras.

The fieldwork conducted for this study did not really reveal any instances of firms innovating at their own level like in industrial clusters in different parts of the world, where clusters encouraged endogenous innovation.

The problems to do with technology acquisition and modernisation, thus, are more complex than merely reflective of attitudes conditioned by social and historical institutions and have more to do with the nature of markets and a corresponding lack of comprehensive policy for the sector. At the same time, specific histories also affect decisions to do with economic activities. To analyse the reasons why Madras has a larger number of firms that have gone in for advanced technology in tanning as well as footwear making, it may be recalled that the relatively large firms in Madras have historically had access to large pools of capital, which might also have affected their decision to go in for footwear manufacture. As mentioned in Chapter 7, footwear making is amenable to production by assembly line methods where production needs to take place in large plants with large amounts of machinery, whereas leather garment manufacture and leather good manufacture are more suitably produced in relatively decentralised production processes involving less and simpler machinery. Firms producing leather garments and leather goods, therefore, are less mechanised and technologically less sophisticated than those producing footwear like the large Madras firms. It is also true that apart from the historical availability of capital with the larger firms, credit has been easily available to firms in the leather industry in Madras in comparison to Calcutta. Thus, given the availability of capital, the nature of
the product produced is such that technological upgradation can take place at least for a sufficient number of firms, enough for them to be able to target better markets and maintain a higher average quality than smaller firms or other large firms that have not undertaken the required upgradation. These firms therefore face more stable relationships with their buyers and have more certain markets, although very little independence in the specifications of the product being produced.

It has been argued above that issues such as vertical integration, the nature of linkages, mechanisation and technology acquisition are related to the kind of market catered to, the kind of product being produced and the specific histories of the two clusters. What then has been the role of social institutions such as caste and community in influencing economic transactions in this highly 'socially embedded' industry and generating the kind of structures observed? Has this traditional industry been 'bogged down' by the weight of social customs and tradition? The following section addresses this question.

8.3 Clustering and Social Embeddedness.

It is generally understood that social relations affect economic decisions through group behaviour (or individual behaviour that is influenced by the individual's belonging to a group) that sets objectives for the group or for individuals within a group. These social relations and the form that they take are themselves historically and structurally embedded, i.e., they are affected by the history of the social relations themselves, by the economic relations that they affect, and the economic conditions that exist. Social relations or networks of such relations may function as the institutional structure responsible for the creation of trust in economic life in particular cases. In such cases, the fact that agents belong to the same social group is reason enough for preventing malfeasance and opportunistic behaviour. In other cases, social relations might actually generate the conditions for breaking of trust or generate malfeasance than in their absence. This could be because the trust engendered by personal relations gives opportunity for fraud upon another unsuspecting agent who is linked socially to the former agent. Any of the above possibilities depend on what kind of economic relation is being talked about. In

16 This analysis is based on a discussion in Granovetter (1985).
economic organisation terms, social relations can function differently for different types of organisational forms. For example, in industrial districts, where independent firms collaborate as well as compete fiercely, entrepreneurs realise that they need to collaborate in order to collectively face competition from elsewhere and success in this is often attributable to a socialisation process, where malfeasance is minimised through clan ties. In hierarchically organised organisational forms, where either subcontracting relationships obtain, or where authority within a firm is hierarchically organised, common social ties may help in checking the moral hazard of opportunistic behaviour. Social institutions such as caste, which are founded on legitimised hierarchy, can serve to engender trust as well as encourage malfeasance on both sides of the hierarchy depending on the situation. Thus, workers from a lower caste might be accustomed to obedience and might not recognise malfeasance on the part of employers who might use the relation of power to pay low wages. The actual way in which social relations affect economic behaviour, therefore, would also depend crucially on the objectives of economic activity.

The various areas in which social institutions are crucial in influencing economic transactions in the leather and leather products industry are summarised here. This has been found in various stages in the production chain i.e. the stages of raw material collection, input supplies, inter-firm linkages, and the labour market. First, the system of raw material procurement and trade reflect caste hierarchy, with the majority of flayers and carcass collectors being from lower castes and working in poor conditions with poor earnings. These large numbers of informal sector workers constitute the first stage in the chain of low cost production and exports from the industry and social hierarchy legitimises their lowly position. These workers, in turn, use primitive methods of carcass collection and flaying due to the degraded nature of operations, which affect raw material quality adversely. The important point to note is that even at this stage, it is the need for keeping costs as low as possible, a fact that is aided by the existence of caste hierarchy, that has resulted in no fundamental changes having taken place, in spite of the raw material constraint being major.

17 The figures for the number of people engaged in raw material collection have been provided in Chapter 3.
Second, Chapter 7 showed how access to input markets is affected by the extent of family or community linkages in raw material trade, which has historically been dominated by Muslims, thus giving an edge to Muslim entrepreneurs by allowing them to exert control over prices as well as quality of raw material. It also allows those with traditional skills, such as the Muslims and the Chinese, to be able to identify and grade raw material without investing in generating the skill in a situation where the quality of raw material is not guaranteed. It is not true, as Banerjee and Nihila (1999) assert, that the expertise to grade leather was being marketed as a service only in Madras and that Calcutta enterprises did not have access to such a service because they did not consider it an important enough asset, as a result needing the entrepreneur to do this, thus restricting the size of the firm. It was seen in Chapter 7 that this expertise is present either with entrepreneurs from traditional communities who exist in both clusters, as well as with leather technologists who, again, were available in both clusters. CLRI's tannery survey also found that the proportion of tanneries employing leather technologists was growing and this was a phenomenon taking place in both clusters. While it is true that the availability of this expertise can grant an edge to firms who have it and thus this asset specificity can be a major determinant of quality differences between firms, the availability of this is not a major constraint for tanneries in both clusters. For, as was seen, tanneries were set up either by people with traditional skills and knowledge in tanning or by leather technologists. What has constrained smaller firms in both the clusters, even if they possessed this expertise, is actually the lack of ties/connections with raw material traders for raw hides and skins to be available easily and at reasonable prices.

Third, another aspect of embeddedness that comes to the fore in the context of traditional community based entrepreneurship is the importance of family firms. The role that familialism and community linkages play in the growth and development of particular industrial clusters has been documented extensively, as seen Chapter 2. It has been argued, especially with respect to the Italian and European industrial districts that local communities and families provide support to bear part of the risk associated with entrepreneurship and that these ties allow information to be disseminated widely, reducing uncertainty. In analyses of the leather sector in India (Banerjee and Nihila (1999) and several publications of the CLRI) it is often stated that the industry's identification with particular communities and families belonging to those
communities has been broken in Madras, unlike Calcutta which is still very entrenched, and this is a sign of progress. The implicit assumption in such analyses is that family control, especially in such entrenched community cases, tends to promote free riding, delays in decision making, a tendency towards risk-aversion, resistance to change etc. However, as mentioned above, family ties by themselves do not imply that such tendencies will exist necessarily. It has been seen in the clustering literature that such ties often play a positive role and thus breaking away from such ties may not grant any obvious advantage.

It is true that family and community have been important factors determining ownership and patterns of control in the leather industry and that some of the most successful firms in the tannery as well as the product making segment are run as typical family firms in both the clusters. The firms owned by the people from the traditional communities are run as relatively closed businesses i.e., as typical family firms with a great degree of family control, large degree of secrecy, internal funding to a large extent, etc.

Because of the perceived need to retain family or community control over the enterprises, very few firms have chosen to get listed on the stock market in the leather industry. In fact, some of the large firms that had grown through substantial bank funding stated their intention to depend more and more on internal funds in the future in order to avoid letting bank officials sit on boards of their companies, thus diluting family control. Thus, family control and community linkages have played a major role in the sector, although this study did not find any evidence to suggest that they function in any way as effective entry barriers, because as mentioned earlier, large numbers of entrepreneurs from non-traditional backgrounds have also entered the sector significantly in the last few decades. However, it is true that belonging to the traditional communities does provide many advantages to prospective entrepreneurs such as access to raw material at reasonable prices, to information, as well as actual sharing of equipment, know-how and the like. Most importantly, belonging to traditional communities has helped the prominent enterprises grow in their earlier phases, giving them a head start that has been sustained over time, as a result of which a large number of the most prominent enterprises in the industry are still owned by those from communities with links with the sector. Another important aspect is that
even the enterprises that are owned by those from non-traditional backgrounds are run as family firms on the same lines as the ones mentioned earlier. This aspect, again, is true for both clusters and it cannot be concluded that firms in Calcutta were relatively backward and unsuccessful also because they were typical family run firms. If family control has rendered firms closed to positive influences from outside, this affects both clusters and cannot be considered a feature affecting only the Calcutta cluster.

Finally, social embeddedness can be seen in terms of the composition of the labour force and employment. It has been seen that in the colonial period, leather workers came entirely from low castes that were traditionally involved with leather work (they all invariably are classified as Scheduled Castes in the post-Independence period). These workers not only possessed the skills but very often were the only groups of people who were willing to work with raw hides and skins. Thus, in both clusters, a significant part of tannery workers have been from these castes.

It was seen in Chapter 7 that in Calcutta, employment in both the tanneries as well as the product-making segment has been almost exclusively caste based, and caste has functioned as an effective entry barrier from the side of the workers. Even trade union activity has been intensely caste based. This is something that has not been attempted to be broken even by entrepreneurs because it provides a large informal workforce that they can pay very poorly due to the legitimacy provided by caste hierarchy. Even though the trade unions in the tannery segment have been militant, their demands have been restricted to marginal wage increases with even the workers not expecting anything beyond that. This may be possible only due to the image of themselves as lowly workers that is given by caste.

In Madras, and Tamil Nadu in general, people belonging to lower agricultural castes have also entered the industry though a large number of traditional operations in tanning are still done by the traditional leather working castes even in factories that are otherwise using modern processes for many of the later operations. There is thus no such entry barrier in Madras, but workers in the leather industry still continue to be from traditional leather working castes or other agricultural lower castes, and from among Kutchi Muslims. In Tamil Nadu, over a period of time, traditional workers were replaced by Muslim workers, with the former being very often retained for the
dirtiest parts of the production process. The reason stated for this replacement was that the Muslim entrepreneurs felt that traditional workers were lazy, unwilling to work with machines and hence untrainable for machine operations, when factories went in for increased mechanisation for the production of finished leather. This is a good example of how a particular community structure which can be expected to be more “loyal” and “grateful” was brought in to replace another existing social structure of traditional workers, where the likelihood of opposition to major changes might be higher. The important point is not whether traditional workers were really a barrier to skill upgradation, but that using workers from the same community as themselves might ensure loyalty through patronage exercised by them. What might also have been in operation here is the desire by these entrepreneurs to remain closed to external influence and control. As seen above, the desire to keep control over the firm was reflected in a great degree of family control that also extended to employment of people from the same community than that possible by having outsiders as employees. Thus, along with family control, community-based employment helps the maintenance of closedness to external scrutiny and control.

It is clear from the above that caste and community have been important factors influencing economic transactions in the leather industry in India and that they been used effectively to achieve particular economic ends by entrepreneurs in both clusters.

In the case of the leather industry, and also for other traditional industries in India, there are different social groups that operate within the same industry. Relations based on trust as well as relations based on mistrust are seen to operate in such circumstances. For example, in the case of the Kutchi Muslim entrepreneurs in Tamil Nadu and the large numbers of Kutchi Muslim employees in the typical firms owned by them, community linkages serve to generate trust through patronage and preserve the closedness that is considered valuable by the entrepreneurs. This is the only case within the industry where employers as well as some employees come from the same community (apart from the backward traditional tanneries owned by chamars from Bihar in Calcutta), i.e., this is the case that is seen in many industrial clusters the world over. It must be remembered that the common community identity comes because Kutchi Muslims are in a minority within Tamil Nadu and employment based on this helps preserve the impression of closedness. The relationship between these
same entrepreneurs and the traditional caste workers, as was seen earlier, is that of mistrust. In general, the employer-employee relation in the leather industry has been one fraught with mistrust, as other studies (Knorringa 1996) have also shown. This is because this relation is based on caste and caste by definition is founded on legitimised hierarchy and mistrust.

Whether it is ‘trust’ generated through common identity, or a lack of it legitimised by caste, the maintenance of strong hierarchies within the firm is what is achieved through either form of social relations. This hierarchy and the lowly position of the majority of workers in the industry is necessary in an export oriented industry catering to the lower ends of the market and is maintained and propagated because it keeps labour costs low. In this sense, therefore, in an industry where economic actions have been strongly socially embedded, social relations have served the cause of the market at various points.

Further, the fact that there are multiple social groups operating in the same industry generates 'separate and distinct networks of trust' that are segmented from each other and might even work at cross purposes from each other. One of the reasons why it has been difficult for the shifting of polluting tanneries to the leather complex in Calcutta has been due to the active resistance put up by Chinese tanners as a group. This can be considered an example for how one network of trust based on a common Chinese identity segreates itself from other similar networks (say, of Muslim tanners in Calcutta). It has been noted (Bagchi 1999) that such segmentation in trust networks makes it difficult to organise genuine self-help associations in many cases, or the classic case of "fostering co-operation" that was seen in the case of the Italian industrial districts, or even affects the effectiveness of public institutions concerned with providing financial and non-financial services. The maintenance of distinct networks of workers from different communities, some sharing a common identity with the owners, may also serve the cause of preventing effective unionisation in Madras.

Thus, it is not the existence or persistence of social relations per se that have determined the trajectory of how they have affected economic outcomes in the sector, but the multiple ways in which they have affected economic decisions. It needs to be
emphasised that networks of social relations have penetrated irregularly and in differing degrees in different ways and have generated trust as well as lack of it in both the clusters. What is crucial to note is that production for the international market has not been impeded in any obvious sense for the segment of demand that India currently satisfies by relations of caste and community. They have in fact served the purpose of justifying the maintenance of a large informal workforce in both the clusters. This will become clearer in the following section on labour markets and labour processes.

8.4 Labour Markets, Labour Process and Flexibility.
Coming to the questions on labour markets and labour processes, it may be recalled that there are two distinct paths that have been observed in development experiences of small firm based clusters. These have been distinguished as the 'low road' and the 'high road' to flexible specialisation. The former refers to the achievement of competitiveness on international markets based on cheap labour working under sweatshop conditions and the latter refers to the Italian kind of experience with flexible production, where labour welfare has been important along with the achievement of international competitiveness. It had been emphasised in Chapter 2 that while the literature in general posits a choice between these two paths, also implying that the latter referred to a form of cluster development with efficiency whereas the former implied less efficiency, in actual experiences in more recent times, countries did not really 'choose' between these paths. It was noted that first, the choice very often depends on what markets are being catered to and it is the degree of volatility/stability of markets that might dictate what strategy is adopted as far as markets are concerned. Second, there might not necessarily be a 'choice' between these two paths, and clusters might develop with characteristics of both. Third, the nature of the labour force and the social relations between capital and labour might affect the way in which development takes place. Thus, the need for upgrading/maintaining low labour standards might arise due to the needs of the production process on the one hand and the social characteristics of the labour force, the degree and effectiveness of trade unions and collective bargaining, as well as social affinities or their absence between entrepreneurs and workers. In summary, it

might be a rational strategy for entrepreneurs to keep labour standards low even as higher ends of the market are targeted in the presence of surplus labour and given certain social conditions of labour as obtain in the Indian leather and leather products industry.

It has been seen in this study how there are stark differences as well as striking similarities between Madras and Calcutta as far as the nature of the labour market, the nature of the workforce, the degree of mobility of the workforce, their wages, benefits and working conditions are concerned. The labour market in Calcutta is segmented, based mostly on caste and largely informal in nature. The workforce in the tannery as well as the product making segments consists of traditional Chamar labour from Bihar and within them, entry into separate segments in the industry are determined by region. This is an institutional characteristic that de facto admits only Chamars into the industry and determines the division between the workers on the basis of region.

On an average, only about 35% of the tannery workforce has regular employment and the remaining workforce is employed on casual basis, with no guarantee of employment. In product making units, the scenario is quite the same, except that it was more difficult to find even informal estimates for the percentage of casual to regular workers. This employment takes place through labour contractors who belong most often to the same caste and region as the workers in the specific segments. Even in the regular workforce, wages are paid only for specific operations, with piece-rates for most machine operations dominating as against time wages. The average level of wages across segments is more or less the same, beginning at about Rs.1200 and going up to about Rs. 2000 per month. Piece-rates vary across different machine operations, with the possibility of earning almost as much as the workers who earn wages in times when demand is buoyant and plenty of work is available. No benefits except Dearness Allowance for regular workers are available for any workers in the industry in Calcutta. While the labour market is entirely informal and offers hardly any security, entry and exit is also tightly controlled by the workers themselves through the barrier of caste and region and this provides an implicit assurance that a job in some unit will be available.

19 It has been seen how the only outsiders who have managed to break this de facto entry barrier into the labour market is a group of Nepali workers who might constitute 5% or so of the tannery workforce, who are employed on higher wages.
Adjustment to volatile demand takes place through layoffs of the non-regular or casual workers for the period in which demand is forthcoming in Calcutta. Since employment is entirely informal, this is relatively easy and the same workforce is available for work when demand is buoyant. Thus the labour market in the leather industry in Calcutta, functions like an informal market in many senses, i.e., wages, benefits, employment patterns etc.

In Madras, in contrast, the labour force is more homogeneous and the labour market is relatively formal in large part. Most of the workers in the larger units, leaving aside the jobwork units and the fabricating units, are employed on a permanent basis, with the proportion of casual workforce much lower, probably at less than 10%. While most tannery workers are male in Madras, most of the product segment workforce consists of women in the age-group of 16-30 and the rate of turnover of this workforce is very high, with most of the women leaving their jobs with marriage, having worked for five or six years. Males are employed mostly in supervisory and decision making positions, with only a few operating machines in the product making segment. For the same operations, there is a clear difference between male and female wages, with male workers earning similar wages to those in Calcutta, and the female workers earning wages of between Rs. 600 and Rs. 1000 on an average. Very few women get absorbed into higher positions with higher wages, and even when they do, they earn less than their male counterparts. All workers in regular employment get benefits entitled to them under the Factories Act, such as Provident Fund, E.S.I., etc. Enterprises maintain regular records of workers employed and there is an office of the Labour Commissioner outside the cluster, which looks into grievances by workers when they are raised and regulates conditions of work. While the labour market in Madras is formal and regulated, there is thus a major segmentation on the basis of gender, and this keeps average wages low across the sector.

In the larger enterprises in Madras, adjustments to demand takes place not through layoffs, but through the system of a 'retention wage'. This is a wage which is paid to workers in slack times or when there is no demand, which ensures that they remain in

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20 This is true only in Madras. In other clusters in Tamil Nadu, women are employed for specific operations, as an earlier section showed.
the employment of the firm concerned. The retention wage is significantly lower than the monthly wage when demand is buoyant, these workers are required to ‘compensate’ for the retention wage received with longer working hours at the average monthly wage. Overtime rates are not paid in such a case. What is guaranteed here, therefore, is regular employment, but with adjustment to demand volatility taking place by adjusting wages in the above manner and maintaining flexibility. In all kinds of units in Calcutta, as well as in the smaller units in Madras, adjustments to a fall in demand take place through a reduction in the time worked or in laying off workers to the equivalent of the reduction in demand.

It is clear from the fieldwork that average wages in the sector as a whole are extremely low across the industry. Minimum wage norms are not followed by enterprises in both Madras and Calcutta. Two points are noteworthy: One, the informal sector’s employment norms seem to set the standard for the whole industry. This was deduced from the fieldwork where entrepreneurs in the larger enterprises argued that when workers do not expect anything more, they need not be paid more. It was seen in the previous section how while it is rational for entrepreneurs to keep labour costs as low as possible, it has been possible to on an average actually keep them as low as in the informal sector also due to the image of themselves as lowly workers that is given by caste. This is an aspect that is particularly true for the leather industry because in caste terms, working with flesh and skin is considered among the lowliest work. This possibly constitutes one of the foremost aspects of historical and social embeddedness that has suited the needs of the international market perfectly. This means that ranging from enterprises that are registered in the formal sector to unregistered enterprises, male workers in the leather industry earn roughly the same average wages per month, working out to Rs. 1200-1500 or so. Two, segmentation is essentially along caste and region lines in Calcutta and along gender lines in Madras.

Coming to mobility of the workforce, it has been seen how in Calcutta the labour market is highly controlled through caste factors and the chances of upward mobility, with a large degree of casual and piece rated employment, are obviously limited. For the women employed in the various units in Madras, upward mobility is not an issue because mostly only women in the age group of 18-30 are employed, and they leave after a few years when they get married. Thus there is a very high rate of turnover.
Kinship and clan ties are, however, important in determining appointment into supervisory positions and to this extent, mobility at slightly higher levels can be obtained through family and clan connections. An experienced worker can, therefore, with the right connections, typically by belonging to the same community, turn into an entrepreneur and start his own unit. While this has also taken place to a certain extent, upward mobility is limited for the most workers in the industry, through the casual nature of employment in Calcutta and through gender segregation in Madras. Whatever limited mobility exists, it is for a small section of regular male workers in both Calcutta and Madras who have managed to rise to supervisory positions.

A major difference between tannery workers in Calcutta and Madras is in the degree of unionisation. In Calcutta, unlike in Madras, a large number of tannery workers in general, as well as in the traditional tannery segment are members of active trade unions which have had a fairly long history of existence in the sector and which continue to be fairly active, as Chapter 7 noted. However, even these institutions of collective bargaining have been influenced greatly by caste in the kinds of issues they have taken up. So, while working conditions, wages, etc., are characterised by levels of primitive existence, trade unions have not managed to raise the consciousness levels of the workers beyond the exigencies of a relatively static, backward existence. On the part of the workers, the abysmal conditions are reinforced by caste where they have a very lowly image of themselves.

In Madras too, trade unions have existed in the leather industry but have over time become ineffective due to a variety of reasons. While employers are less employers are less apprehensive about Trade Unions in Madras, there were a large number of agreements that were drawn up between unions affiliated mostly to the AITUC and CITU and employers associations, mediated by the Labour Commissioner. These agreements were invariably drawn up after strikes were announced by the trade unions, indicating a certain degree of legitimacy among workers, as well as threat perceptions on the part of employers. The agreements had to do with increases in wages as well as allowances. Over a period of time, however, employers have succeeded in diluting the potential for collective bargaining through the replacement of trade unions in individual firms by plant level committees that are not linked to any
external trade union. While this has reduced the effectiveness of industry level trade unions, workers in individual units still continue to keep contact with the trade unions.

What is clear, however, is that, contrary to what Banerjee and Nihila (1999) argue, it is not that militant trade unionism has been a major hurdle to modernisation in Calcutta, whereas it has been non-existent in Madras. Trade unions have existed in both clusters and formally exist even today, but over a period of time, with the nature of changes in the organisation of firms, the labour process, the feminisation of the workforce, etc, the possibilities for labour militancy have become limited in the sector as a whole and commensurately in the tannery segment specifically. Further, with the objective of both government policy as well as of firms being to minimise labour costs in the interest of maximising exports, the potential for labour militancy has been eroded significantly.

It is clear that the way the sector has developed gives very little gains to labour and in this sense, the leather industry is a classic case of the low road to flexible specialisation. However, what is interesting is that the low labour standards seen come with a combination of modernisation and growth in the larger enterprises in the industry. There appears to be no contradiction between perpetuating low labour standards and embarking upon modernisation in an effort to capture the higher ends of the leather products market.

8.5 Characterising and Contrasting the Madras and Calcutta Leather Clusters.

How then can one characterise the leather and leather products industry in India as well as the two prominent clusters studied and how can the contrasts between them be accounted for? In studying the leather industry in the colonial period, Roy (2001) characterised it as a traditional artisanal industry that embarked on modernisation in response to commercialisation and the expansion of markets. About thirty years after export policy consciously aimed at developing the indigenous industry to cater to the expanding international market, the leather industry in India is characterised by a wide range of organisational forms that appear to have strong linkages with one another and form part of a relatively uniform structure. The industry as a whole can be characterised as a mechanised traditional industry functioning with flexible production organisation and informalised labour processes. While this might appear
as a restricted characterisation, it is meant to represent the 'average' organisational form across the industry and points out to the tendencies inherent in the evolution of organisational forms. For example, both the tendency towards increased mechanisation (including automation in many cases) as well as that towards informal labour processes (in the labour market, organisation of work, remuneration and working conditions) have been increasing over the past few decades, as has been pointed out at various points in this study.

Further, the 'average' tendency is seen across different locations in the industry, more specifically, across the two clusters that have been studied and which are very different in many historical, social and production respects.

This brings one to the next obvious question: how can these clusters be characterised? It has been seen in Chapter 2 that Knorringa (2002) classifies clusters into different types on the basis of their evolution along the following trajectories, beginning from the level of a basic agglomeration to more mature organisational forms: the first one is that of the Italianate industrial district; the second one is what is referred to as the hub-and-spoke variety and the third one is that of a satellite district. These trajectories are for non-stagnating clusters, i.e., those that go beyond being mere agglomerations of firms and possess inter-firm linkages of more advanced kinds. It has often been argued that Italianate industrial districts are considered possibly the most ideal form of cluster based economic organisation because they have managed through inter-firm linkages and joint action to capture significant market shares with the benefits accruing to individual firms quite effectively. The second trajectory, that of the hub-and-spoke district, refers to the situation that occurred in the Sinos Valley in Brazil where with the exposure to international markets, leading firms got smaller firms to supply to them as subcontractors. There are thus strong internal hierarchies between firms with the smaller firms generally supplying to the leading firms and themselves directly selling in probably less attractive markets. This trajectory thus consists of some firms who own the largest and most modern factories in the cluster, dominating the local industry through control over business associations, with smaller firms supplying to them as subcontractors. Such 'fat cats' often function as a drag on the

These, it may be recalled, are referred to as survival clusters, as noted in Chapter 2.
innovative ability of clusters. With competition increasing and with economic liberalisation, a large number of developing country clusters appear to be tending towards hub-and-spoke kinds. The third trajectory, that of the satellite district, consists of agglomerations of small and medium firms that produce exclusively for large firms outside the cluster or the country. They, thus, have very little control over their markets and their existence is in order to take advantage of low labour costs in developing countries.

In the case of the clusters considered in this study, low rather than high labour standards have formed the cornerstone that has provided competitiveness to the sector. The sector or clusters within it do consist of small firms that are locked into relationships with each other that have determined the pattern of accumulation in the sector as well as the way to cope with volatile, fragmented demand. But these inter-firm relationships have largely been hierarchical, with the purpose of existence of the relationship being determined strictly by the ability of the higher levels to systematically transfer the burden of adjustment to volatile demand to lower levels. Horizontal relationships have been competitive rather than co-operative, except to be able to maintain the low labour standards mentioned earlier or to set up Common Effluent Treatment Plants in Madras. There has neither been a transition to a classical industrial district nor a clear evolutionary shift towards hierarchically organised districts with distinct core-ring structures centring around a few lead firms of the hub-and-spoke kind, nor has there been a clear evolution into a satellite form of organisation in either of the two clusters. In fact, it may be argued that both the Madras and Calcutta clusters are hierarchically organised ones with a combination of independent and dependent firms at lower levels of the hierarchy, with some characteristics of the satellite form of organisation prevailing. To be more precise, even for the largest firms in the cluster, production is tailored to the requirements of retail chains or large brands in the international market, where production is similar to international jobworking. While the relationship with buyers is longstanding and stable in many cases, it is one where the conditions are set by the buyers with the local firms being at the receiving end when slumps occur in demand. At the same time, large numbers of firms in both the clusters, including many smaller ones, are constantly looking for and finding new markets, however volatile and vulnerable they may be. This has been aided by the Council for Leather Exports as well as the
industry level producers' associations which organise trade fairs on a regular basis. At all levels of the hierarchy, one can therefore find examples of independent and dependent production. Even for a dependent producer, it is the possibility of independent production that drives production. However, internal hierarchies between firms have resulted in some firms cornering the benefits of technological research, dominating business association as well as various committees that have been appointed by the government to look into the industry's problems. This consists of some firms who own the largest and most modern factories in the cluster, dominating the local industry through control over business associations, with smaller firms supplying to them as subcontractors. Thus, hub-and-spoke kinds of structures also obtain, where the hub may be said to be constituted by these larger firms which maintain strong hierarchies with smaller firms.

Finally, what distinguishes the clusters in the leather industry in India from other clusters that have been reviewed in the literature is the existence of inter-cluster relationships. While each cluster has its distinct identity, right from colonial times, there has been a fair amount of interaction between different clusters in the industry. For example, a large number of tanneries in Calcutta supply finished leather to product making units in Agra and Madras. Similarly, product makers in Calcutta and Agra very often procure particular kinds of finished leather from Madras. Some of the large firms in the industry have their production facilities in more than one cluster in order to take advantage of locational factors. One obvious implication of a structure such as this is that while policies need to be cluster oriented, they also need to keep this aspect in mind.

Given the above, what about the similarities and differences between the Madras and Calcutta clusters? It was seen in Chapter 7 that in terms of the structure of production, both clusters are similar and characterised by a very wide array of organisational forms, ranging from the small workshop type fabricators and jobwork tanneries on the one hand to large vertically integrated enterprises on the other. It was also seen that both clusters are historically and socially embedded with these institutions affecting economic transactions significantly. While the general structures of production, as well as the informalisation of labour are similar in both clusters there are significant differences too between them. It has already been seen that the first major difference
lies in the numbers and the size of large firms in the clusters, with Madras (and Tamil
Nadu in general) having a large number of large modern firms in comparison to
Calcutta. These have already been dealt with in Sections 8.2 and 8.4. In brief, this is
because of the initial size of capital available in Madras to begin with as well as the
relative specialisation that the Madras firms have done in the international market.
The other differences are to do with the fact that the Madras industry is more export
oriented, whereas Calcutta also supplies to the domestic market; that the ethnic
composition of the labour force in Calcutta is distinctly traditional community based,
whereas Madras appears to have brought in more diverse people into the industry; and
that the Madras industry employs large numbers of women in the labour force and is
also more organised as far as the registration of units as well as workers is concerned.
These have been dealt with in previous sections and it is clear that both clusters have
contributed to the maintenance of informal methods of production and employment in
different ways, and it is as prevalent for export production as for domestic production.

There is the general impression created, therefore, that the Madras industry is more
progressive and modern than Calcutta, whereas the actual picture reveals a lot of
similarities in the logic of economic organisation in both the clusters. None of the
above differences render the Madras cluster as a whole more modern than the
Calcutta cluster taken as a whole.

One of the differences between the clusters that is important analytically and might
have a bearing on their future existence and growth is the relative attitude to collective
action of various kinds. It has been mentioned at various points in this study that joint
action between enterprises that take advantage of the division of labour between them,
as well as in creating a conducive atmosphere for production has been crucial in
generating 'collective efficiency' in clusters. It has also been seen in the previous
chapter and this one that joint action to co-ordinate production decisions or in
marketing have been limited in both clusters. However, in Tamil Nadu in general, and
Madras in particular, a major collective action initiative was seen in terms of the
setting up of Common Effluent Treatment Plants (CETPs) to control and treat effluent
discharge in order to abide by Supreme Court rulings regarding fighting pollution. In
Calcutta, in contrast, there has been strong resistance to either setting up a CETP in
the tannery area or to moving out into a Leather Complex that has been built on the
outskirts of the city. This is due to an inability of the majority of Calcutta entrepreneurs to recognise the advantages that accrue by abiding with anti-pollution norms and postponing the decision for as long as possible. A similar attitude is reflected in the poor status of registration of units, maintenance of records to do with employment, wages and other information to do with labour, for fear of being made accountable. The Madras leather industry, on the other hand, has been more law abiding with respect to these aspects, and thus more judicious in producing for the international market. The Madras industry has been able to take advantage of clustering through selective collaboration, whereas this collaboration has been limited to negotiating with labour as far as Calcutta is concerned.

In a purely legal sense, the Madras leather industry has greater chances of continuing with present practices of production and employment than the Calcutta industry, unless the latter shifts entirely to the Leather Complex, where both abiding by anti-pollution norms as well as maintaining records properly will be essential. In terms of market prospects, both clusters have established markets which will continue to be lucrative, although individual producers try to outcompete each other to retain markets. If present conditions continue, the Indian leather and leather products industry will continue to cater through intense competition between firms and an intensification of flexible forms of production to the lower segments in the international market and use the domestic market as a buffer against vulnerability in the international market.

Finally, the crucial questions that need to be answered are: why has India got locked into the kind of position in the international market that was seen in Chapter 6, i.e., the low-priced high-competition segment? Within the ‘low road to flexible specialisation’ category what has prevented the degree of upgradation that has been seen, say, in the Sinos Valley footwear cluster in Brazil, which has managed to break in successfully into higher ends of the footwear market? What does it need to do to be able to target higher segments of the market in industrial clusters such as the ones seen in the Indian leather and leather products industry?

The following section of this chapter attempts to answer this question by looking at the role of the State in the development of the leather industry in India and especially
State policy with respect to exports from the sector. It is argued that the State has played a crucial role in shaping the structure of the sector and tailoring it to meet international demand in particular ways. In other words, the State has influenced the degree and nature of export orientation and through it the structure of the sector crucially in the leather and leather products industry.

8.6 The Role of the State in the Leather and Leather Products Industry.
It has been seen in Chapter 2 that the role of the State has been mixed across diverse clustering experiences. Industrial clusters are seen as forms of economic organisation that offer opportunities for growth and upgradation through their structure with the existence of an institutional structure that might or might not need the active intervention of the State. The reason why it is discussed extensively is because industrial clusters are seen typically to be dominated by small-scale firms, which might need support to overcome constraints on their growth and development, as explained in detail in Chapter 2. This support is in terms of correcting for market failures on the one hand and in being an effective regulatory force on the other.

In addition, in specific contexts such as in Italy and several European industrial districts, the State is considered to be a crucial institution that creates the conditions for co-operative competition by actively ‘fostering co-operation’. This co-operation is seen as essential not only between enterprises at different levels of the production process but also between capital and labour. This is also because in Italy, the State has been an important player in creating a small-firm based model of accumulation even as countries around the world continued to be dominated by large business. This so-called model was aimed at providing an alternative path of development for small firms with gains being relatively equally between different agents in the production process, including between capital and labour.

In other contexts, industrial clusters are seen to have evolved institutions to correct for market failures through joint action by enterprises, with the State playing not an actively interventionist but only a supporting role. The State in this case merely creates the conditions under which private enterprise can generate institutions for joint action. The extent of ‘fostering co-operation’ in production between firms or between different agents in the production process is limited by the needs and priorities of
enterprises within the clusters. A large part of the literature, therefore, argues that the State should limit its direct involvement in industrial clusters and merely support various forms of joint action by enterprises.

Depending on the specific context, therefore, experiences of small-firm based industrial cluster development have seen the State playing roles ranging from being highly active and interventionist (with strong regulation, provision of supporting services to compensate for market failures and ensuring co-operation between all agents in the production process) to merely being a facilitator (by encouraging joint action, formulating policies that favour the sector, and so on) for the creation of institutions to deal with specific constraints faced by enterprises. It is important to note that in the context of large numbers of countries having gone in for economic liberalisation programmes, where the mainstream view holds that the State should abstain from actively intervening to influence economic activity, a similar view is considered valid for industrial clusters as well.

This section assesses the role of the State in the Indian leather and leather products industry from the point of view of the above experiences and looks at whether there is a pattern to State involvement in the industry. To begin with, this study has shown that unlike other traditional industries, the State has played a crucial role in the leather industry by framing policy and developing institutions to support the industry from colonial times. By virtue of it being an export industry and catering to British war demand from colonial times, the State played a major role in shaping the structure and planning the growth of the industry through the colonial period and in the entire post-independence period. In addition, in keeping with the need to have control over the growth and development of the industry, the State built up an array of institutions to promote the industry from very early on, which made it very different from other traditional industries. Thus, one of the essential conditions that are necessary in small-firm based clusters, the existence of a network of formal institutions to cater to the needs of small firms, has been there.

However, in the post-independence period, particularly the period since 1973, the record with respect to influencing the development of the industry by regulating it, or correcting for market failures, or attempting to shape its development has been mixed.
and governed by specific imperatives. These have to do with the foreign exchange earner role of the industry, the State' representation of the interests of specific kinds of enterprises over time in their foreign exchange earning capacity and a non-recognition of clustering as an economic organisational form that might need specific kinds of interventions. Chapter 3 presented the details of the policy framework that has been in place for the leather industry in the post-independence period. Chapters 5,6 and 7 traced the links between some aspects of Government policy and structure, organisation and performance of the industry. It can be seen that different perceptions, changing priorities and varying efficacy of implementation have determined the trajectory of policymaking and the role that the State has effectively played in the leather industry. Several features of Government policy towards the industry and their impact on the structure and performance of the sector are apparent.

First, right from colonial times, the overriding priority for the development of the leather industry has been its role as exporter and foreign exchange earner and all other objectives have been overshadowed by this priority. Facilitating exports through different sets of policies has constituted the main crux of policies towards the sector.

Second, another major consideration that has governed policy towards the leather industry is due to the fact that the sector being a traditional one is dominated by small-scale firms and employs large numbers of people from underprivileged sections of society. Policies for small-scale sector development have been as comprehensive for this industry as for other small-scale industries, but have also been influenced by the overriding priority given to the foreign exchange earning role of the industry. Further, changing perceptions with regard to the role of the small scale sector in the overall context as well as in the case of this specific industry have influenced structure and performance a great deal.

Third, it has been a general premise that the domestic market constitutes a drag on the development of the industry and the export market should receive priority over the domestic market. This has resulted in very little planning taking place for how the domestic market should be catered to, where the domestic market actually constitutes more than 50% of demand for a large part of the post-independence period. This can be deduced from the fact that even in industry specific planning documents, estimates
of how important the domestic market is are only guesstimates. Further, it has been stated time and again that leather production in semi-finished and finished form should be diverted exclusively towards production for the international market. The channelising of all raw material supplies from the hinterland, towards leather clusters, thus making it uneconomical for local level product making units across the country to produce leather products, is a logical outcome of such a perception. The structure involving the long chain of intermediaries in the raw material chain with entrenched interests, modifications in which involve very strong will by the state, is also effectively left unchallenged with this perception.

Fourth, over the period of its development, the leather and leather products industry has seen the growth of a group of medium and large firms that have become very influential in formulating policy towards the industry in their role as ‘industry leaders’. The State’s role has been crucial in representing the interests of this group of firms successfully in policy formulations and this has influenced the nature of clustering.

It was seen in Chapter 6 that from 1973 onwards, when the first major policy initiative for value added production was taken, the composition of exports changed from domination by finished leather to an increasing share of leather products such as footwear, leather garments and leather goods. It was also seen how this took place when policy changes reflected changes in the international market, with a relocation of production to developing countries. It has always been a stated objective for India to be able to cater to the low labour cost segment of the international market to take advantage of its competitive edge and production tailored to this end has always been given support. However, from the mid-eighties or so, the emphasis has shifted from the sector merely being a major foreign exchange earner to actually being an important player in the international market by catering to high value added segments. This has arisen out of the fact that with the development of the industry, substantial size differentiation also took place in the leather clusters with changes in the

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22 This has been mentioned in the section on demand for different products in the leather and leather products industry presented in Chapter 3.

23 It has been seen in Chapter 3 and will be reiterated in the section on constraints below that this results in a major erosion in raw material quality that affects export production adversely, but there have been very few attempts to effectively address this problem.
composition of production. A group of influential medium and large firms came into existence in the industry as part of the process of growth and structural change in the clusters and constitute the 'leading firms' in the industry. These leading firms have managed to produce for relatively more stable niches in the international market in relatively higher value added segments within specific products. Given that many of these firms have seen substantial growth and have managed to make their presence felt, export policies have also reflected the specific needs of these firms. The major emphasis on facilitating cheap imports of finished leather, sophisticated machinery and components, which only such firms will be able to afford, is part of the articulation of the specific needs of this segment. At the same time, it has not been the perception that production for higher value-added segments of the market requires enormous co-ordination and a recognition of clustering as a distinct organisational form, along with essential upgradation. Levels of regulation required to ensure quality and minimum standards have not been implemented in the interests of permitting low labour cost production. This is an aspect that will be emphasised below.

Coming to small-scale sector policy, it can be seen that it has been formulated and implemented with the aim of encouraging the development of capitalist enterprise in areas where pre-capitalist production structures were found to be predominant and where the process of industrialisation might not generate this transformation spontaneously. Small scale sector development policies came up in the context of the overall emphasis on heavy industrialisation in the post-independence period, where they were assumed to make wage goods available for the large mass of the population while large industry would concentrate on basic and intermediate products. Policies of reservation and various incentives thus aimed to provide entry points and protection for small firms where it might be otherwise difficult for them to enter and grow. What was made clear at the beginning of the development process was that what was being aimed at was the creation of a stratum of small capitalists, as well as of individual capitalist enterprises. Tyabji (1989) argues that the small industries policy that was formulated from the late 1940s onwards was conceived in the context of overall capitalist development in India, where the overriding concern was how to bring a large number of traditional industries into the mainstream development process. The idea of providing protection to them was not to preserve the traditional element within
them, including methods of production, but to enable a transformation into proper capitalist enterprises, where the use of wage labour would be predominant, where relatively modern methods of production could be employed, and so on. Over time, the dominant view of the development process underwent changes and this was reflected in changes in the attitude to small industries. It was increasingly argued from the early eighties onwards that targeted incentives in the form of reservation, subsidised credit, purchase policies to enable marketing, and so on should be gradually phased out to enable small firms to compete with large firms. In the context of the export-oriented industries, this argument was persistent as it was generally perceived that small size was inimical to export production.

Further, there have been substantial changes in the specifics of policies for promoting exports as well as for small-firm development over the years that have been determined by perceptions put forward by the government on which kinds of firms and what kinds of organisational forms can maximise export earnings. Also, policy changes have taken place with changes in the perceived role that India’s leather and leather products industry plays in the international division of labour, with changes in the profile of exports as well as the structure of the sector.

In the leather and leather products industry, the two priorities of attempting to maximise export earnings and encouraging small-scale industry were not considered contradictory to each other until the perception regarding small industry changed. It was seen in Chapter 4 that the leather industry was a special case of industrial clustering where the initial development of the clusters saw the growth of large firms to meet British war demand, where subsequent demand patterns resulted in deconcentration of production and the resultant structure where small scale was predominant. As seen in Chapter 3, in spite of the fact that industries such as garments and leather which are major foreign exchange earners are small-scale sector dominant, with the contribution of the small scale sector to foreign exchange earnings being substantial, it has generally been the view in policy circles in more recent years that small size has been detrimental to exports. One of the major aspects of change in policy towards the leather industry has been the move towards substantial

24 This was in contrast to the view of the Gandhians who focussed on the preservation of traditional forms of production in traditional and village industries (Tyabji 1989).
dereservation, intended to remove incentives specially given to small-scale producers as long as they remain small-scale. As stated above, there was no perceived contradiction between small-scale sector development and production for export because small firms managed to enter export markets quite successfully. However, from the mid-eighties or so, the emphasis has shifted from the sector being a major foreign exchange earner to actually being an important player in the international market. The idea, therefore, is not merely that indigenous industry should develop in value added segments in order to be able to export in labour intensive segments that have been relocated to developing countries, but that Indian firms should be able to compete in segments of the international market where brand image is important and where large firms are considered to have an edge. With the articulation of this perspective, reservation provided to small-scale production have been considered unnecessary and actually detrimental to the goal of maximising exports. It was never considered possible or necessary to explore whether facilitating small-scale sector development through focusing on groups of firms might be an alternate strategy of competing effectively in international markets. However, in spite of this change in emphasis, India has progressively been losing market share, as Chapter 6 showed.

In the post-liberalisation period, export policy towards the leather industry has been strongly influenced by the dominant perceptions governing the role that the State should play in economic activity. Thus, changes in policy from the beginning of the 1990s have to do with substantial liberalisation of imports and delicensing to facilitate export production, with reduced emphasis on targeted subsidies and incentives.

It can be seen that the needs of export production have dominated over the needs of the industry as a whole in determining the major shifts in policy. A combination of an overriding priority for exports and a discrimination against production for the domestic market implies that the segment that caters to the export market receives priority over the segment that caters to the domestic market. This has taken place, with the excessive emphasis on export production having very often resulted in effective discrimination against those enterprises not involved in exports directly, even though they might contribute to export production indirectly. This has been seen most obviously in the case of credit availability, where it has been much easier for leather product manufacturers and exporters to get credit than for tanneries that do not
export directly, but produce tanned leather for exporters or for the domestic market. The larger implication of this is that when international markets are uncertain and unreliable, the domestic market is not a reliable fall-back option.

Having discussed how changing perceptions have crucially affected policy towards exports as well as the small-scale sector in the leather industry, an assessment of the role played by the State is made in the context of the clustering literature below.

It can be seen that in spite of the existence of clusters from colonial times and the emergence of the large volumes of research as well as policy changes in other countries where the economics of cluster organisation was discussed extensively, small-scale sector development policies in India have not taken notice of clustering as a specific organisational form in any concrete sense. The possibility that small scale enterprises can exist and do well in clusters due to the nature of markets or the characteristics of particular industries, as well as the fact that the conscious development of division of labour between firms in clusters might be an effective market strategy, is not concretely recognised in policymaking in India even today and can be seen clearly in the case of the leather and leather products industry. There has not been any attempt to introduce elements of co-operation between producers to co-ordinate production activity as incentives have focussed on individual enterprises.

A fundamental feature of successful clustering has been the provision of 'real services' such as marketing assistance, credit availability, technological help, raw material availability, and so on to correct for market failures in the context of small firm development. While the State, through the development of various institutions, has ostensibly tried to provide these services, the actual provision of these services for small firms has been half-hearted as this chapter and the previous one showed and not in line with the needs of the cluster as a whole, but keeping only individual enterprises in mind. The problems with technological upgradation, credit availability, etc have been discussed in previous sections. This has possibly taken place due to an inability to understand the structure of the industry and the specific aspects of organisation in the form of clusters. The overwhelming need perceived by firms

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25 As Chapter 7 showed, they have either not been available, as in the case of credit, or information has not been disseminated adequately.
across size configurations to vertically integrate is related to the uncertainty of getting guaranteed downstream services and inputs. What this results in is a lack of effective division of labour between firms in the cluster which is a major source of efficiency gains.

Coming to regulation, this is where the State’s role has been minimal. In large parts of the industry, Chapter 7 showed that there have hardly been any regulations imposed on firms with regard to size, labour standards and pollution norms over the years. While regulation has been ineffective with regard to adhering to labour standards or specifications regarding size and growth of firms primarily due to non-implementation, it is in the last few years being imposed with regard to environmental norms, which are becoming increasingly important in international trade. Otherwise, Chapter 7 showed how little regulation seems to have affected the sector. Thus, regulation is seen as necessary only when it becomes an impediment to exporting.

Where the State has played a significant role is in facilitating particular kinds of joint action by enterprises. It was seen in Chapter 7 and also mentioned above that there are specific features of joint action seen in the leather industry in India. There is hardly any linking up between firms for production purposes except at the jobworker/fabricator levels. Where firms show sufficient horizontal linkages is when they need to negotiate with labour or for lobbying/influencing government policy. The aim of the former aspect, as seen several times in this study, is to keep labour costs as low as possible and this has been aided by the absence of regulations regarding labour welfare being imposed by the state on enterprises or groups of enterprises. The latter aspect, that of lobbying or influencing policy, is limited to the largest and most influential firms in the industry, or the ‘leading firms’ mentioned above. It was seen how owners/managing directors of these prominent companies have also consistently been members of government appointed committees and been involved in drafting plan documents for the industry. The State has played a crucial role in facilitating joint action of the latter type through the CLRI, the Council for Leather Exports under the Ministry of Commerce, and its various institutions and in articulating the needs of this segment which has managed a limited entry into higher value added segments.  

\[26 \text{Tanneries, it may be recalled, are now required to install Combined Effluent Treatment plants and in Calcutta, being asked to move to a Leather Complex.}\]
without upgrading labour standards. Some of the most recent changes in licensing policy, reservation policy as well as large-scale import liberalisation essentially benefit large firms that have already established a presence in international markets.

Thus, policy for the leather and leather products industry in India has not in any sense of the term been similar to those seen in classic industrial districts, where policies to encourage small-scale enterprises have represented a particular form of accumulation that is seen to have been successful even in highly competitive international markets and where such strategies have included policies for consciously forging links between enterprises as well as protecting labour. It has not even been similar to the kinds of interventions seen in the case of several successful industrial clusters where size differentiation has taken place and the nature of interventions have been facilitatory. In India, emphasis on encouraging small-scale enterprises has existed only because of the traditional nature of the industry and the fact that it happens to have had a large number of small enterprises, but not as one where small scale firms might represent a viable form of organisation in specific contexts of the nature of the production process and of markets.

Having discussed the role of the State in the leather and leather products industry in India, the following sections describe the major constraints that characterise the industry and also summarise the major arguments that have been made in this chapter.

8.7: Identifying the Major Constraints

Given the structure and organisation of the leather and leather products industry, a variety of constraints can be said to exist, both external and internal, and these define India's position in the international market for leather and leather products. These may be designated as structural constraints, organisational constraints and policy related constraints. Structural constraints relate to certain features that are probably less easy to deal with in the short run or are outside the control of the immediate agents in the sector. Organisational constraints relate to features in the economic organisation of the industry that may be within the capacity of agents as well as regulatory authorities.
to try and change. Policy related constraints might possibly be the easiest to address, especially if they are with regard to policies for the sector concerned specifically.\footnote{It must be recognised that none of these kinds of categorisations might be watertight or precise. However, it has been done to enable an analytical separation.}

The most important constraint on the Indian leather industry, which may be said to be structural in nature, is the nature of the international market itself. It has been extensively seen in Chapter 6 as well as in Chapter 7 that the segments of international demand that India satisfies are the medium to low priced segments that are also very volatile and uncertain. The volatility and uncertainty derive from the fact that India faces a large number of competitors in this segment, where keeping labour costs as low as possible is the major element of competitiveness and where margins are extremely low. Individual exporters, ranging from the smaller ones to the largest ones, rely on individualised transaction with foreign buyers and the basis of competition is price undercutting in this segment, with no co-ordination or co-operation between exporters to prevent exploitation by buyers. Since the overriding emphasis is on keeping labour costs as low as possible, the production structure that has come into existence to deal with this volatility relies heavily on informal labour processes even as production has over a period of time become more mechanised and scale has expanded across the board. Given that India has progressively been losing share in the international market for leather and leather products, dependence on this market in the way in which it is being catered to presently itself constitutes a major constraint on the industry. The way out of this crisis of markets is either to devise better strategies to deal with this segment of the international market, or to try and target higher segments of the international market, or to reduce dependence on the international market and consciously develop the domestic market, or a combination of these alternatives. The possibilities with regard to each of these alternatives are discussed in the conclusion.

Coming to the internal constraints, a major bottleneck relates to raw material availability, as seen several times in this thesis, because of the high price of raw hides and skins and its low quality. This in turn is due to non-recovery of a large amount of raw hides and skins, backward practices of carcass recovery, flaying and preservation; hardly any organised linkages between the meat and leather industries leading to a lot
of wastage; large numbers of intermediaries between the flayer and the raw material dealer and between the dealer and the firm leading to significant vested interests as well as price mark-ups; long transportation time due to concentration of raw hide and skin markets in semi-urban and urban areas resulting in high costs and erosion in quality; very low incomes of traditional flayers leading to an exodus away from the occupation due to the low incomes and social stigma, in many areas, as well as no incentive on the part of the flayers to use better methods of flaying or preservation. What does this constraint imply? In the perception of owners of enterprises, fieldwork showed that they consider high prices of raw material and its unreliable quality as major constraints rather than non-availability per se. However, it is also true that at the sectoral level there is a mismatch between projected demand and potential supply of raw material if existing systems persist. In the perception of industry associations and the CLRI, published documents as well as interviews with office-bearers show that the raw material constraint is perceived to have the following implications: first, that both shortage as well as low quality create the need to import finished leather of high quality in large quantities. In an industry where raw hides and skins constitute the highest proportion of inputs, this could mean a further drain on the already scarce foreign exchange resources with a rising import intensity of production. Second, according to this perception, the domestic market for leather products constitutes a drag on the industry and should be catered to by synthetic substitute based products, releasing raw material for exclusive export production.

These constitute a relatively narrow analysis of the serious raw material constraint that the industry is faced with. The problems with raw hide and skin availability are not merely those associated with ensuring a stable source of supply for enterprises in the clusters, but also of ensuring stable livelihoods for the large workforce employed in the process of procuring raw hides and skins. This, along with the ensuring of quality in the methods of procurement, is possible only if there are substantial organisational changes beginning from the rural areas right upto the raw material markets. Even as far as ensuring a stable source of supply to enterprises is concerned, very often the problem is the lack of economies of scale in purchase of raw materials for relatively smaller enterprises, making it expensive for them. This, in turn, is again an organisational issue that needs to be dealt with by real service providing institutions, as will be argued subsequently. In summary, it is a combination of
organisational changes that are substantial, supported by appropriate technological packages, and very importantly, an increase in the earnings of the people engaged in carcass recovery and flaying that constitutes the crux of policies to deal with the raw material constraint. An easing of the raw material constraint is crucial for the most basic quality upgradation as well as has important employment implications, given the spread of the industry and its links with its sources of raw material supply.

This would involve the following: as a first step, the shift in the leather sector completely away from the rural areas to the urban clusters needs to be reversed partially at least. In other words, a partial declustering is probably desirable keeping in view the structure and organisation of the entire sector. This is to be able to retain artisanal skills within the sector without resulting in too much migration to the already crowded clusters both at the flaying as well as tanning levels, to ensure better returns to carcass collection, flaying and tanning activities for primary producers, and to take care of the leather needs of local leather product artisans, notably footwear makers.

As mentioned in the background chapter, the basic processes involved at the carcass recovery and flaying stages are: Communication of information about the death of cattle by the owner to the flayer, lifting and transportation of the carcass, flaying, component separation, curing of hides and by-product utilisation. A reorganisation of the collection system and the improvement of facilities for the lifting and transportation of carcasses can be done by granting collection rights to artisanal cooperatives or flayer's groups in small areas and establishing decentralized carcass recovery centers at village level or at the level of a cluster of villages. Flaying centres or flaying-cum-tanning centres can be set up at slightly more aggregative levels for better flaying practices and at the same time reviving rural tanning (vegetable tanning as well as chrome tanning) at appropriate scales at a cooperative level. Tanning could concentrate merely on wet-blue tanning or upto the-finishing stage. The technological package for the above has already been worked out by the CLRI, and some experiments have been conducted in different parts of the country, but its dissemination has been scanty. With adequate technical help from the CLRI for flaying, preservation, tanning, by-product utilisation and effluent treatment these

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28 These involve the construction of platforms for better flaying and the provision of improved tools for flaying.
29 Some experiments of this kind have been in operation for some time now and been successful. See Appendix 7.4 for a description of one such successful experience.
decentralized centers could help stem the adverse terms of trade faced by rural artisans, provide employment to traditional workers in the sector, improve the quality of raw hides and skins overall, and also reduce the pollution load in the urban clusters, where all tanning activities get concentrated. For example, reduction in the pollution load would take place not because it gets dispersed but because it is easier to deal with small quantities of effluent effectively. State industries departments could take up the setting up of flayers' cooperatives-cum-tanning centers as a major promotional activity by providing cheap credit, disseminating technology and ensuring cooperative marketing systems as well. Effectively establishing these centres could help deal with the very low incomes and vulnerable position of the large number of people involved in rural and urban areas in the informal sector, in carcass recovery and flaying, and also provide additional and better employment.

It is also possible to introduce similar initiatives at the level of rural leather goods manufacture. With increased consumer awareness, there has been an increase in the demand for leather goods, particularly footwear, in the rural areas. While rural footwear makers with traditional skills are unable to compete with the organised sector, producers of western-type footwear enjoy a comparative advantage in rural markets if they are imparted the requisite skills because of the relatively lower overhead expenditures. Comprehensive schemes to upgrade the skills of rural footwear producers along with appropriate credit availability would also cater to rural demand, provide rural employment and promote rural industrialisation.

The overall effect of these measures would be to ensure the percolation of value-addition to the lowest levels and to integrate traditional leather workers into a relatively modern system and a possible gradual erosion of the stigma attached to the work as a consequence of clean handling and processing of carcasses using modern equipment.

Second, the rural urban link through the process of raw material procurement can be made more productive such that enterprises obtain raw material at reasonable prices. Through co-operative systems, the carcass recovery centres could link up to raw hide

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30 See Appendix 7.4 for the information on the improvement in the incomes of the flayers.
markets that supply raw material to the urban centres. At the enterprise level, enterprises operating in clusters face the raw material constraint in terms of high prices, because small-batch buying is more expensive for them. The setting up of real service centres catering to the raw material needs of small enterprises in different clusters that can supply it to them at reasonable prices is essential. The same applies to the availability of components and accessories for product making units (zips, bucket, lasts, PVC soles, etc.) and of chemicals for tanning units.

A second major sectoral constraint is of low productivity at enterprise level and at the sectoral level due to inadequate technological upgradation and non-adherence to environmental and anti-pollution norms. Different aspects of technology can be identified: technology development (involving the development of R&D facilities), technology dissemination (involving the organisational methods by which technological knowledge reaches the producers) and technology adoption. The various areas in which all three are important are in (i) improved processes at different stages in leather and leather product manufacture (ii) improved machinery in all stages of leather and leather product manufacture and (iii) improved design capabilities. As far as technology development is concerned, Chapter 3 already mentioned the fact that major technological developments have already taken place at various levels, essentially under the auspices of the CLRI. The constraint manifests itself mostly at the level of dissemination and adoption levels, as summarised in an earlier section of this chapter.

It was seen that the problems with technology adoption exist even when information is available for several reasons: high costs of technology acquisition for individual firms, availability of cheap labour to substitute for mechanical processes as far as mechanisation is concerned, the unwillingness on the part of firms to network with technology development and dissemination agencies in order to avoid visibility, as well as the fact that acquisition of technology is viewed mostly as a short term cost rather than as a long term cost reducing strategy.

It has also been seen how the clusters have hardly facilitated endogenous innovation by firms and how actual decisions with regard to the nature of technology upgradation
have been circumscribed by the need for flexibility in production and labour processes.

The problems to do with technology acquisition and modernisation, thus, are more complex than merely reflective of attitudes conditioned by social and historical institutions and have to do with a lack of comprehensive policy for the sector (and thus policy related), as well as the nature of markets. Given the nature of the technological constraint as outlined above, this constraint will result in an overall erosion of competitiveness as far as the sector as a whole is concerned and especially in the area of pollution control, lead to the shutting down of polluting units in the tannery segment. However, an easing of this constraint in any significant manner, resulting in large-scale upgradation, is actually possible if market conditions change so that producers are under less pressure to cut costs under any circumstances. At a minimal level, the availability of technological inputs would be necessary at a common level in clusters as well as in dispersed areas through real service centres, in order to deal with problems of dissemination and information. The reasons for low usage of common facility centres needs to be investigated and access to them improved through provision of information about them, locating them at convenient locations and providing the facilities wherever enterprises need them.

A third major sectoral constraint is the low level of credit available to the leather and leather products sector from organised sources as a whole. Whatever meagre credit has been available, whether for addition of facilities, working capital, or technology upgradation, has been available mostly to the larger, formal enterprises. Chapter 3 showed that the total volume of credit outstanding to the leather and leather products industry was an abysmal amount compared to the size and importance of the industry. Chapter 7 showed that enterprises in the tannery segment including larger ones, obtained credit from family and friends or the informal market, whereas credit was more forthcoming for product making units, particularly those who export their output. A major reason for this is because the tanning business is still considered an 'unclean' business due to notions of 'purity'. Even in official circles, it is more 'respectable' to be an 'exporter' rather than a mere tanner, irrespective of profits made, because tanning is considered dirty work. In addition it is also true that the larger units and their owners, who invariably belonged to traditional leather
manufacturing communities or to those who are involved in the raw hide business, wanted to maintain as much family control as possible and even in cases where bank credit was taken, they preferred to switch over to family funds as soon as possible. These facts present an interesting aspect of the biases and the weight of social customs affecting production in this sector and therefore, the fact that smaller units in tanning as well as product making, where traditional social structures still prevail, find it difficult to get credit is not surprising. This problem can be addressed only if credit that is tailored to the needs of specific enterprise is made available in sufficient quantities by public and/or co-operative institutions in specific clusters and it is made sure that people in charge of disbursing credit are free of social biases. This would need to be done with sufficient propaganda and through targeted programmes.

Two other major problems that affect the sector as a whole are the poor availability of skilled workforce and that of marketing. As the analysis in this chapter showed, a large part of sector that is in the unorganised as well as the organised segment taps the informal market for labour and invests very little in them. However, many of the workers are from traditional leatherworking communities and possess innate artisanal skills, which has contributed to the growth of the sector as a whole. There is, however, a shortage of skilled manpower as far as production operations in more modern enterprises are concerned. At the same time, enterprises are not willing to pay wages commensurate with skill and many tedious, actually skilled jobs such as embroidering of shoe uppers, actual stitching of bags, several tanning operations, are not even recognised as particularly skilled jobs. Individual enterprises also find it difficult to invest in manpower training.

The problems to do with marketing affect different kinds of enterprises, at different levels. At the sectoral level, since demand for the sector’s products is segmented and volatile, even large firms have to have several customers at an individual level at the same time in order to spread out risks. The diseconomies of such marketing have been overcome to a limited extent for some exporting units through the participation of individual units in international fairs. However, unlike in many other successful industrial clusters, marketing exercises have not been conducted keeping the ability of the cluster as a whole or of groups of enterprises and marketing continues to be a costly and vulnerable exercise for most firms in the cluster.
For substantial skill upgradation, it has to be made mandatory for enterprises of a certain size to invest in training of workers and its use in production would need to be rewarded in terms of enhanced earnings. It is necessary to have a pool of skilled, trained manpower not only in areas such as leather technology (where colleges of leather technology produce large numbers of technologists each year), but also in more specific operations. However, as mentioned several times above, this would make sense for an industry only if it wasn’t concerned with minimising costs under any circumstances. With low labour costs being the major element of competitiveness, there would always be a contradiction between upgrading skills of workers and keeping labour costs at a minimum, particularly at the level at which they are in this industry. For a fundamental change in the condition of the industry, to cater to higher ends of the market, the state and public institutions in the industry would have to take the responsibility and invest in training. This would need to be part of decentralised development programmes where several facilities are provided in the clusters as mentioned earlier.

To sum up the overall sectoral and enterprise level constraints that have been outlined above, it can be seen that a large part of them are due to the organisational structure of the industry and in large part because there has not been a comprehensive policy package that addresses the sector as a whole on the one hand and one where cluster level problems are dealt with keeping the fundamental economics of cluster existence in mind on the other. More fundamentally, the constraints stem from the structure that has come into existence to meet the segment of international demand that India caters to. Taken together, the nature of export orientation, which means the fact of a major emphasis on the export market, as well as the set of policies that have been in place to cater to it, itself has set major constraints on the future prospects of the industry.

8.8 Summarising the Relationship Between Export Orientation and Industrial Clustering in the Two Clusters Studied.

This chapter has analysed the main findings from the fieldwork conducted in the Madras and Calcutta clusters and answered the specific questions that have been posed in the beginning of Chapter 7. The key findings can be summarised as follows:
(a) Both the clusters studied are typical small scale clusters with the majority of the units being small in scale, as seen elsewhere in the world, with a wide range as well as depth. While there are a significant numbers of medium and large-scale units in the tannery as well as the product making segments in both clusters, they all evolved from small scales. In this sense, the clusters are similar to typical small-scale differentiated clusters that are found in developing countries.

(b) Both clusters contain the whole range of organisational forms presented in Chapter 3, from vertically integrated enterprises with the whole production process internal to the firm to a huge number of units doing part processes and linked to each other vertically or horizontally, with a wide range of intermediate structures in between. This study examined the cases of jobwork and fabricator firms at the bottom level in the tannery and leather product making segments respectively, small-scale independent tanneries and product making units, firms that were part of groups, and medium and large tanneries and product making units in both the clusters. It also considered the specific case of traditional tanneries in the Calcutta cluster. It may be inferred that jobworker/fabricator firms and traditional tanneries would belong to the unregistered sector of industry whereas the others would most probably be classified as registered (organised) sector enterprises. It was also seen that while dense inter-linkages exist, the objective of individual firms in the industry is vertical integration. The process-specialised firm has come into existence to meet market demand, but each firm in turn aspires to integrate forwards or backwards. This is a major difference between the clusters studied here and classical industrial district type forms of industrial organisation, and also many small-scale clusters like Tiruppur. It may be seen that decisions to vertically integrate or not, or to retain the facility for both and use both depending on the situation is dependent on the nature of the market in particular years and the degree of vulnerability associated with production for the international market. Most firms in both the clusters have opted for flexible production structures in order to cater to the international market. This kind of flexibility has become possible due to the phenomenon of clustering itself, where firms derive major advantages out of agglomeration and inter-linkages.

(c) Coming to whether clustering has facilitated endogenous innovation by firms and whether the nature of technological upgradation has been sufficient to cater to the needs of discerning international markets, it has been seen that there has been significant mechanisation involving the use of new machines in the industry across
size configurations. However, in both clusters it has also been found that there are major problems to do with balancing between machines for different processes, as well as the fact that firms take decisions on modernisation on the basis of whether and how they can link up with other firms or whether they can achieve maximum flexibility in the hiring of labour. Thus, while machinery acquisition has been determined to a large extent by liberal imports of capital goods as well as the emphasis on value-added exports in the export policies for the sector, actual decisions with regard to the nature of technology upgradation have been circumscribed by the need for flexibility in production and labour processes. This is a major feature in both the clusters and constitutes the nature of the link between clustering and technological upgradation. Thus the nature of the market and of export orientation are crucial determinants of how technological upgradation takes place in the leather and leather products industry. The problems to do with technology acquisition and modernisation, thus, are more complex than merely reflective of attitudes conditioned by social and historical institutions and have more to do with the nature of markets and a corresponding lack of comprehensive policy for the sector. While vertical integration is a logical extension of the kind of trajectory that has been seen, the largest numbers of firms in both the clusters have remained small. This is possibly due in large part to reservation, but also due to the nature of the industry, as well as the nature of markets. With decomposable production processes and volatile markets, a large number of firms find it convenient to remain small and maintain flexibility, with the majority of firms belonging to the fabricator/jobworker level or small-scale independent or group firm level.

(d) The flexibility in the production structure has become possible due to the flexibility that is maintained in labour processes by all kinds of firms in both the clusters. Flexibility in labour processes is given by informal recruitment procedures, low average wages and very limited mobility for workers across all kinds of firms in both the clusters. This has been achieved through segmentation based on caste in Calcutta and on gender in Calcutta. There are stark differences in labour market situations in the two clusters, but clustering has enabled the availability of large pools of workers and the informalisation of labour processes that has become indispensable for the existence of production flexibility even in the organised sector. It also implies that the simultaneous growth of the unregistered sector that has been seen in this industry becomes an equally indispensable part of the structure.
(e) Looked at from the point of view of the formal-informal sector distinction, it can be seen that while a large number of firms might be classified in the formal (registered) sector, most firms in the industry, including large, organised sector firms in all segments employ informal labour processes to ensure flexibility in catering to the international market.

(f) Social relations of caste and community have been very important in ensuring flexibility in production and labour processes in both clusters. These relations are important at the stage of raw material collection, in the structure of firms as family firms, in entrepreneurship and employment. Caste and community have been used effectively to achieve particular economic ends by entrepreneurs in both clusters. Through the production chain, caste based employment has served to keep labour costs low where it exists. Common minority community identity has been important in entrepreneurship as well as in employment and is based on notions of 'trust' and patronage. Whether it is 'trust' generated through common identity, or a lack of it legitimised by caste, the maintenance of strong hierarchies within the firm is what is achieved through either form of social relations in the arena of employment. This hierarchy and the lowly position of the majority of workers in the industry is necessary in an export oriented industry catering to the lower ends of the market and is maintained and propagated because it keeps labour costs low. In entrepreneurship, social relations have helped maintain closedness from external scrutiny and control through the prevalence of family firms and also served the cause of joint action in specific circumstances. What is crucial to note is that relations of caste and community, or 'internal institutional factors' have been important in both clusters and may be said to be characteristic of the whole industry, but production for the international market has not been impeded in any obvious sense for the segment of demand that India currently satisfies by relations of caste and community. They have in fact served the purpose of justifying the maintenance of a large informal workforce in both the clusters. The impact and functioning of social institutions does affect the sector as a whole, but is present in both clusters, and modernisation and success in export markets cannot be attributed to the breaking down of social institutions in a major way in any one cluster.

(g) The State has played a major role in determining the degree of export orientation and influencing the structure of the leather and leather products industry. In this chapter, it has been seen that the influence of government policy has been there in (i)
the majority of firms in each stage of the production process being small-scale firms in both clusters, which could be considered an impact of reservation, at least partially, (ii) the setting up of firms in various stages of the production process at different points of time as well their expansion trajectories being related to policy changes (iii) the absence of implementation of labour legislations even where they exist effectively enough to ensure low cost exports which has been the overriding priority of State policy and (iv) institutions representing the State playing a major encouraging role in joint action by enterprises. Both developments in export policy as well as small-scale sector policy have affected structure in both the clusters.

(h) While the overall structure that has come up to cater to the international market is similar in both the clusters, there are also significant differences between Madras and Calcutta and this is dependent on their different histories on the one hand as well as the kinds of products being produced, rather than institutional features such as caste and community being more of constraints in the latter than the former. The major difference lies in the numbers and the size of large firms in the clusters with Madras (and Tamil Nadu in general) having a large number of large modern firms in comparison to Calcutta. This is because of the initial size of capital available in Madras to begin with as well as the relative specialisation that the Madras firms have done in the international market. The other differences are to do with the fact that the Madras industry is more export oriented, whereas Calcutta also supplies to the domestic market; that the ethnic composition of the labour force in Calcutta is distinctly traditional community based, whereas Madras appears to have brought in more diverse people into the industry; and that the Madras industry employs large numbers of women in the labour force and is also more organised as far as the registration of units as well as workers is concerned. Both clusters have contributed to the maintenance of informal methods of production and employment in different ways, and it is as prevalent for export production as for domestic production. There is the general impression created that the Madras industry is more progressive and modern than Calcutta, whereas the actual picture reveals a lot of similarities in the logic of economic organisation in both the clusters. None of the above differences render the Madras cluster as a whole more modern than the Calcutta cluster taken as a whole. One of the major differences between the clusters that might have a bearing on their future existence and growth is the relative attitude to collective action of various kinds. While joint action to co-ordinate production decisions or in marketing have
been limited in both clusters, in Tamil Nadu in general, and Madras in particular, collective action has been prominent for the setting up of Common Effluent Treatment Plants (CETPs) to control and treat effluent discharge from tanneries, whereas in Calcutta, in contrast, there has been strong resistance to either setting up a CETP in the tannery area or to moving out into a Leather Complex that has been built on the outskirts of the city. This is due to an inability of the majority of Calcutta entrepreneurs to recognise the advantages that accrue by abiding with anti-pollution norms and postponing the decision for as long as possible. A similar attitude is reflected in the poor status of registration of units, maintenance of records to do with employment, wages and other information to do with labour, for fear of being made accountable. The Madras industry has been able to take advantage of clustering through selective collaboration, whereas this collaboration has been limited to negotiating with labour as far as Calcutta is concerned.

(I) The leather and leather products industry as a whole can be characterised as a mechanised traditional industry functioning with flexible production organisation and informalised labour processes. This represents the 'average' organisational form across the industry and points out to the tendencies inherent in the evolution of organisational forms. For example, both the tendency towards increased mechanisation (including automation in many cases) as well as that towards informal labour processes (in the labour market, organisation of work, remuneration and working conditions) have been increasing over the past few decades, and represent a response to the kind of demand that the industry faces in the international market.

(j) One aspect that distinguishes the clusters in the leather industry in India from other clusters that have been reviewed in the literature is the existence of inter-cluster relationships from colonial times where the same firm has production facilities in more than one cluster or where firms have dense interlinkages of various kinds with independent firms in other clusters.

(k) Given the above structure, the sector as a whole faces several constraints to sustained development in the form of an external constraint and several internal constraints which, in turn, are crucially linked with the external constraint. The external constraint consists of a volatility of markets, defined by the fact that India caters primarily to a highly fragmented and uncertain segment of international demand which in turn has been shrinking due to intense competition. Internal constraints are to do with non-availability of raw material in sufficient quantities and
of sufficient quality to the clusters and individual enterprises, credit, skilled manpower, technology and marketing constraints. It can be seen that many of these constraints have arisen due to the fact of production for the above mentioned segment of the international market and also due to the nature of policy intervention in the sector, which focuses on exports but does not focus on cluster-based interventions. At the same time, production continues to be lucrative for enterprises of all sizes and types in the industry as long as flexibility is possible. This probably constitutes the reason why, in spite of not being able to target higher ends of the market and earn better margins, firms at an individual level continue to produce as varied an output as possible. In this sense, the survival of the clusters is not what is at stake. What might be difficult to achieve would be the kind of presence in the international market that the CLRI and other prominent organisations wish to achieve, or to even maintain existing shares in the international market.