CHAPTER 4

HISTORICAL EVOLUTION OF THE LEATHER AND LEATHER PRODUCTS INDUSTRY

4.1 Introduction

This chapter looks at the history of the leather industry ever since production in it acquired a commercialised form in the country in general, and then traces the history of the two clusters that have been studied. The reason why this study, which is concerned with the relationship between clustering, the organisational forms associated with it and export orientation in the leather industry, is going into the historical evolution of the industry is because of the following: first, the organisational forms that developed in colonial times in this artisanal traditional industry, as in artisanal industry in large parts of the world, shaped the nature and organisation of the industry in the post-colonial period. Many aspects of the industry in contemporary times are similar to what existed in the late nineteenth and the early twentieth centuries.

To mention a few similarities that are elaborated later, (a) artisanal production in the traditional sense is common and thriving even today in this sector, in cluster form in the shoe industries of Agra and Calcutta and in non cluster form spread out all across the country. (b) Many of the units that exist today (modern as well as not so modern), apart from the traditional ones mentioned in (a) have existed as family firms for decades and their functioning reflects the aspirations and strategies of the families as well as the ethnic and cultural backgrounds that they come from historically (c) artisanal production, notwithstanding the changes to more modern forms, maintained strong links with the social structure and this continues, with social structure and its associated hierarchies being crucial not just at the firm level, but at the level of the industry as a whole.

1 Artisanal industry, as in Roy (1999) has been used here to refer to those with the following features: technology based on tools, non-corporate organisation and customary origin (precolonial). In addition, as mentioned in the introduction, it also refers to the intertwining between social structure and economic activity.
Secondly, a crucial factor that caused changes in the industry is very similar to the major stimulus for change that occurred in the phase of modern development of the industry, notably the exigencies of producing for an international market.

Third, the origin of the phenomenon of clustering that is a major aspect being studied goes back to colonial times and the phenomenon cannot today be understood without a clear understanding of the reasons and the basis of clustering. This chapter therefore examines why the leather industry in India was so amenable to the clustering form of industrial organisation and how clustering occurred. It also examines why particular areas saw the development of leather clusters. Some of the obvious similarities and differences between the clusters and inter-cluster relationships are also looked into. The existence and importance of inter-cluster relationships is an aspect specific to this industry that this study seeks to emphasise, and these owe their origins to historical developments in colonial times.

A historical view of the industry will thus enable an understanding of how economic organisation changed in the past due to internal dynamics or external factors and how the specific ways in which organisations adjusted reflected the conditions prevailing at the time. In this industry that has strong historical roots, it will enable an examination of questions of path dependence as well as the role that old institutions and forms of economic organisation play in the industry today.

4.2 The leather industry in traditional, artisanal form.

The history of the leather industry in its commercialised form can be traced to the post-1850s period, with the transformation of a quasi-service into a good traded commercially both domestically and internationally taking place during this period. This chapter therefore begins with the mid-1800s and looks at major historical developments until 1973. As mentioned in the introduction, the year 1973 marked a

---

2 As has been seen in Chapter 2, a major question in the literature has to do with their origins, in terms of the kinds of production units as well as that of the agents involved.

3 A recent study of the leather industry that compares the Calcutta and Madras clusters (Banerjee and Nihila 1999) that has been mentioned in the Introduction argues that the Calcutta industry represents a more backward system of production compared with Madras and here, many institutions that have existed in the industry as a legacy from the past have resulted in stunted growth and an inability to respond to opportunities presented by international demand. A specific enquiry into the historical roots of present structures would permit an assessment of views such as this, and more broadly, what role institutions and the agents in industries such as this play across time and contexts.
watershed in the development of the Indian leather industry because in response to several changes in the international market, an Export Trade Control Order was passed in 1973 that banned exports of raw hides and skins and semi-finished leather and provided several incentives for the production and export of finished leather. Until 1973, the pattern of exports and organisation that was set in the colonial period continued. This chapter therefore considers the period from the mid-1800s to 1973 as the historical period.

Roy (1999) notes that most kinds of craft in mid-nineteenth century India could be classified either as commodities (with the existence of a market within and outside the village and the use of money for exchange distinguishing them) or as non-marketed services (where the provision of a good or service was part of contractual feudal services to a patron or benefactor). The leather industry was a classic case of the latter, being governed by a patron/client relationship mediated through caste. The process of transformation within the leather industry, like many others, involved the conversion of this patron/client relationship into the former. In other words, it involved the creation of a market for its products.

The leather industry is also an example of a quasi-service bound mostly by contractual feudal obligations getting converted to an exportable commodity without the intervening stage of the creation of a national market or even a local market in any significant sense. This is because what distinguishes this industry from other crafts is that formerly the nature of demand for its products was extremely limited because footwear, which constitutes the major chunk of demand for any leather industry, was worn only by a limited number of people and the demand for other kinds of products such as garments or bags made of leather did not exist. A stimulus that could be provided by demand needed to come from the international market.

The leather industry, which consisted of workers engaged primarily in flaying, tanning and to some extent in product making, was primarily rural based in the early nineteenth century and work was distinctly associated with specific castes who were

---

4 Non-local demand existed in the form of demand for crude footwear in the urban areas and some demand by the army. Within the village, demand consisted essentially of that for leather buckets for drawing water, water bags and crude footwear.
very low in the caste hierarchy like the Chamars in the northern plains, the Mahars of western India, the Madigas in Telugu speaking regions, and the Chakkiliyans in Tamil speaking regions, to name a few. Tanners and other leather workers, due to the nature of their work and their position in the caste hierarchy, had a degraded image, and as Roy (1999) notes, “The respectable distance from the villages of the caste people was universal, and necessitated by the Hindus’ aversion to the craft because of its association with flesh, while the Muslims found the Chamars’ habit of keeping the pig, ‘that foul beast’, equally offensive”. Leather workers, or those associated with tanning, flaying, curing of hides and skins, and also those who made products, were also involved in other activities which were very often in the nature of contractual services as well, such as coarse weaving, agricultural operations in the busy season, scavenging, etc. Payments took the form of customary rights to reusable wastes, crop-share and sometimes piece rates, the mix being variable between regions and classes and over time (Roy 1999).

The division of labour between flayers, tanners, and product makers depended upon regions and in some cases the three merged, with the leather worker being a flayer-cum-tanner-cum-product-maker, whereas in other cases, the division of labour between these categories was quite distinct. It was very common to find flayers and tanners being the same and the leather product (mostly footwear) makers, i.e., the Mochis, being distinct socially. Very often it was seen that the division of labour was more advanced when the article being produced involved a more advanced technique, or greater skill, and/or had an urban clientele. Uses of leather were mostly traditional—the leather water bag used for irrigation, leather containers used in households, drums and other musical instruments, and footwear. While flaying and tanning were mostly less commercialised, product making tended to be more commercialised. The product that was most integrated into urban and semi-urban trade was shoes, although for limited elite consumption. Demand, whether determined by contractual obligations or not, was not large enough to generate economies of scale.

---

5 Roy (1999), p 159.
6 Domestic trade was not absent, as there was an urban and an army demand for leather goods, but this was relatively small. Urban elites wore western style footwear, but this was mostly imported.
The main manufacturing process in the industry consisted of the tanning of raw hides and skins and involved a series of relatively simple manual operations which were, however, tedious and backbreaking. Until the end of the nineteenth century, the process of tanning known in India was exclusively vegetable tanning, which means that the main tanning substance used had a vegetable origin. On an average, the tanning process took thirty or forty days to complete, although the actual time depended on the material used, the state of the cured hide, the process used, and so on. These operations were all done in crude sheds or in the open, the work area bordering villages, because of the 'untouchable' nature of the operations and of the workers involved.

Typically, when a cow (or any other cattle) died in an Indian village, the owner tied a rope around it, dragged it as far to the edge of the village as possible, and then notified the flayer who would drag it out of the village and flay it. The hide was then either cured and tanned by the flayers themselves, or sold to a tanner. They were then duty bound to supply their patrons or the owner of the cow with a fixed supply of leather footwear and other articles such as water bags and irrigation implements, or sold to leather workers who were in turn duty bound like themselves.

4.3 Markets and Change in the Colonial Period.

In this scenario, the stimuli for change came in the form of a decline in rural tanning and the development of the industry in urban centres stimulated by increased demand from the international market. The decline in rural tanning took place for internal as well as external reasons. Within the rural areas, many important traditional uses of leather declined. For example, the traditional water bag was replaced as more centralized water supply systems developed, leather containers were replaced by

---

7 The details of the process of vegetable tanning have been presented in Chapter 2.
8 The process of vegetable tanning has been described in detail in Chapter 3 and is therefore not elaborated much here.
9 Traditional tanning of exactly the type described above is still done in many parts of India, primarily in rural areas, with the level of technology, the time involved, the problems with the final product, etc remaining the same as in the early to mid-nineteenth century that one is talking about. In Calcutta, however, which is a major center for leather and leather product production, a large number of such tanneries employing similar processes exist in a cluster, alongside more modern tanneries and product making units. These units, which have been covered in depth in fieldwork for this study, present an important aspect of production organization in the Calcutta cluster, in economic as well as social terms. This will be presented later in the chapter. Here attention is being drawn to the fact that historical forms of production organization still exist in a significant sense to this day.
metal ware, the use of the village drum went down, and so on. Externally, export trade in raw hides and skins and leather began in the 1830s. It began to be recognized that India, with the largest cattle population in the world, could become a potential supplier on the world market. Initially, India exported only raw and cured hides and skins, but by 1850, began exporting tanned hides and skins as well. This was due to a significant technical improvement introduced in the Madras Presidency.

Until 1847, locally tanned hides and skins in Madras, using the avaram bark, produced a pale yellow, flexible leather, which was defective in that when exposed to sunlight, oxidization resulted in it turning an ugly red colour and patchy. The Madras tanners received complaints from overseas buyers on account of this. In 1847, Charles De Sousa, a French Eurasian technologist treated this avaram tanned leather with a tan liquor from myrabulan, which came to be known as the myrabulan bath. Subsequently, the leathers tanned in the Madras Presidency were found to be of acceptable quality internationally. Exports from Madras thus surged and both U.K and Germany became significant importers of tanned leather as well as raw hides and skins from India.

Export trade, however, became significant only in the 1870s due to a variety of reasons. First, a 3 per cent export duty on hides was abolished in 1875. Massive famines in South India in 1876-8 and 1896-8 resulted in huge cattle mortality and this stimulated trade in hides and skins. Around the same time, the development of railway communications between Madras, Bombay and Calcutta and the main hides and skins producing regions facilitated internal trade, as did the increased ease with which raw or tanned leather could be transported to the ports.

With these changes, tanneries began to be set up at major ports. Slaughterhouses were set up at the turn of the century in urban and semi-urban areas that began to now supply a significant proportion of the raw hides and skins. At the same time, given that the largest supply of raw hides and skins still came from dead animals, a network

10 Roy (1999) notes that that as early as 1804, a prominent civil servant, H.T.Colebrooke, argued that England could replace her supplies of hides from Brazil with those from Bengal.

11 The first slaughterhouse to be set up was in Tangra area in Calcutta in 1869, where the industry got concentrated subsequently. This, however was an isolated example of a municipal slaughterhouse being set up so early. Slaughterhouses in other parts of India became busy only by the 1920s. See Roy (1999).
of merchants and intermediaries was necessary to collect dead animals from far flung rural areas. This network was set up from the very communities that were in the business of producing leather and marked the beginning of the huge network of middlemen and traders, strongly rooted in the social structure, that plays a very important role even today in the industry.

Table 4.1: Export of hides and skins by sea, 1890-1939.

<table>
<thead>
<tr>
<th></th>
<th>Cured Thousand tonnes</th>
<th>Rs. Million</th>
<th>Tanned Thousand tonnes</th>
<th>Rs. Million</th>
</tr>
</thead>
<tbody>
<tr>
<td>1890-4</td>
<td>43.9</td>
<td>83.5</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1895-9</td>
<td>62.3</td>
<td>91.0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1900-4</td>
<td>58.2</td>
<td>71.0</td>
<td>15.2</td>
<td>32.0</td>
</tr>
<tr>
<td>1905-9</td>
<td>67.2</td>
<td>92.1</td>
<td>16.2</td>
<td>48.4</td>
</tr>
<tr>
<td>1910-14</td>
<td>74.5</td>
<td>99.5</td>
<td>16.3</td>
<td>44.3</td>
</tr>
<tr>
<td>1915-19</td>
<td>55.8</td>
<td>130.0</td>
<td>24.4</td>
<td>87.1</td>
</tr>
<tr>
<td>1920-4</td>
<td>44.4</td>
<td>61.2</td>
<td>13.8</td>
<td>51.3</td>
</tr>
<tr>
<td>1925-9</td>
<td>57.0</td>
<td>81.5</td>
<td>20.9</td>
<td>81.6</td>
</tr>
<tr>
<td>1930-4</td>
<td>11.4</td>
<td>11.7</td>
<td>3.4</td>
<td>10.6</td>
</tr>
<tr>
<td>1935-9</td>
<td>13.1</td>
<td>13.4</td>
<td>4.5</td>
<td>11.5</td>
</tr>
</tbody>
</table>

Source: Tirthankar Roy (1999)

Table 4.1 shows the exports of raw hides and skins and leather between 1890 and 1939, the period after the railway network between Madras, Bombay and Calcutta and the major hides and skins producing regions had been established. In the last quarter of the 19th century, Germany and Austria were the main buyers of Indian raw hides and skins and this trade was organised by a group of quasi-German or German firms based in Calcutta and forming a strong cartel. At the same time, the growth of chrome tanning created a demand for Indian raw or semi-tanned hides and skins in America. From 1890 onwards, leather constituted 5-8% of total private merchandise exports. The composition changed gradually from cured to tanned leather. The volume of leather trade dropped sharply during and after the Great Depression, as the table shows, but this was only temporary and in the meantime, fundamental changes had
taken place in the industry. A number of factors resulted in this. Before going on to this, however, a brief discussion on the degree of social differentiation among the leather working castes and the identities of the entrepreneurs in the export trade is in order.

The development of the urban tanneries had several effects on social structure and mobility. The low caste leather workers, or chamars as they have been referred to, who were bound by various customary obligations in the villages, faced various options as these broke down. They broke down essentially because owners of cattle found that what used to be given away to the chamar 'free' and in turn commanded customary services now commanded a 'price' as it could be sold to agents of export houses or urban tanneries. The leather worker (flayer, tanner or product maker) found himself unable to get his raw material as before and apart from this, there were instances of leather workers giving up leather work to go into 'cleaner' occupations, or to become agricultural labourers, and achieve an improvement in status all over the country. The flayer as collector of carcasses was replaced by the 'contractor', the agent of the hide merchant or the slaughterhouse. For those who continued in the trade, the options were to migrate to the urban tanneries as workers, or to become sub-agents of hide contractors (who were in turn employed/engaged by export merchants or tanneries), or to become traders themselves. Those who became sub-agents of hide contractors slowly found themselves, as the lowest link in a chain leading to the international market, dependent on a chain of intermediaries involved in the trade to the tanneries or the ports. A few who directly contracted with the tanneries and turned into traders prospered relatively. In the tanneries, the labour force came entirely from the chamars who had migrated to the urban areas, because only they were willing to work in the tanning process.

As for being owners of tanneries, it was not easy for the chamars to turn entrepreneurs for several reasons. First, while many of them set up vegetable tanyards, it was difficult for them to go into chrome tanning as this required investment, market access and information. Second, conventional sources of finance like the Hindu moneylenders were averse to advancing credit for tanning. The leather artisans were therefore constrained by hierarchy and never became entrepreneurs in any significant manner, except to own small vegetable tan yards in rural and semi-urban areas. The
urban tanneries saw the growth of large tanneries that sometimes employed hundreds of workers and the capital for these came from non-Hindu, non-artisan backgrounds. The factories were owned mostly by Khojas or Muslims from hide trading families. These families had been involved in meat production and later rawhide trade, and these tanneries came up mostly where slaughterhouses and/or a major spot market for raw hides came up, or near major ports. Until the First World War, thus, Khojas or Muslims owned most of the enterprises in leather tanning in many areas, with a small sprinkling of Europeans.¹²

What were the major factors that made possible the pattern of exports seen in Table 4.1? First, there were the organisational changes that took place by the end of the 19th century. Clearly, there was a major decline in rural tanning and the rural areas became areas for the procurement of raw hides and skins, i.e., the village became the lowest link in a long chain of production and marketing that led right up to the international market. This was in order to enable the setting up of urban tan yards that were significantly larger in size than their rural counterparts, with the workers coming from the former artisanate and earning wages, in contrast to the customary obligations that prevailed previously. This wage worker, however, was highly degraded and “...hierarchy.... made the practice of industry unfree for the artisans in a number of senses: unfree to specialise, to choose customers, to set prices....(subsequently)....the tanners became free from the quasi-serfdom of the village, but remained unfree in so far as their lowly status limited access to entrepreneurial resources like credit....hierarchy remained within the factory, and enabled employers to pay small wages and permit poor working conditions.”¹³. This is an aspect of production that remains the same in the sector today, the ability of employers in general to pay low wages and maintain poor working conditions, and this is permitted by the fundamental hierarchies that still remain.

The roots of the low labour cost nature of the leather industry in India can thus be found in the nature of social hierarchy that got institutionalised in the industry such that even a large part of the organised, modern sector within it pays low wages. From

¹² This is true about large parts of India, but not of Calcutta where, as we shall see, Muslim enterprise came up relatively later, after the European and Chinese owned tanneries had already been set up and had been operating for quite some time.
¹³ (Roy 1999) p 178.
the side of the workers, as if to justify the degraded image that working with leather socially implied, they have not been able to achieve amelioration in conditions in any significant manner in spite of a long history of trade unionism in the sector. This is something that will be taken up in subsequent chapters.

Another factor that expanded trade and stimulated growth in the industry was a second major technical improvement that took place in the first decade of the twentieth century, i.e., the development of chrome tanning. Although this was introduced in the USA and Europe as early as the 1890s, in India it was started on an experimental basis in a factory set up by the Government of Madras only in 1904. This was done at the initiative of A. Chatterton, one of the officials of the provincial government in the Madras Presidency as one of his attempts to foster economic development in the provinces by demonstrating the success of different lines of business with state patronage. Swaminathan (1992) notes that this initiative at the hands of an official of the provincial government brought it into strong conflict with the mercantile community who saw in the action of the state a threat to their own interests. Her study also highlights the fact that whenever a provincial government departed from its traditional role of a ‘night watchman’ the attempt was soon aborted. In the case of this study, it highlights the fact that state patronage to the industry in consideration as well as the active involvement of the state in fostering technical advance was something that was discussed actively in Madras at the time. This is an important point that this study seeks to emphasise, that in spite of the unorganised nature of the industry or its artisanal roots, state patronage accorded to the industry was significant and this continued even in the post-independence period. This is related to the fact that right from the beginning international demand played an important role and the state found it necessary to formulate policies and take initiatives that would boost exports.

As one of the first examples of its kind, Chatterton strove to develop chrome tanning as a viable process in Madras, to stress that even in a traditional industry, the possession of scientific knowledge and industrial education was essential. His work in relation to chrome leather was not limited to promoting its use, but also to train

---

14 Padmini Swaminathan (1992)
private entrepreneurs and students from all over the country in the government tannery. However, chrome tanning required large investments and imported tannins and this delayed its adoption. With the popularisation of the chrome tanning process and the outbreak of World War I, trade in tanned leather picked up and slowly started changing the profile of Indian leather exports.

All these were reflected in the growth in the number of large tanneries. Their number rose from 13 in 1901 to 66 in 1939, and labourers working in them doubled. Small, unorganised tanneries were very large in number, with a provincial survey of unregistered factories conducted by the Royal Commission for Labour in 1931 showing that in Madras, 776 tanneries employed about 10000 workers. With the outbreak of WWI, the British realized that the leather produced in India could be put to a variety of wartime uses, such as production of saddlery and harness and army boots. Further, Germany, which had been the major importer of raw hides and skins from India, went out of the market with World War I and the demand for tanned leather went up due to army demand.

The tanning industry, therefore, was fairly well developed in India by the 1920s. A large number of large tanneries existed in the various clusters, mainly Madras, Calcutta and Kanpur that grew essentially due to military demand for tanned leather. Simultaneously, as the section on the historical evolution of the Calcutta and Madras clusters will show, the growth of small tanneries was also very rapid and the period after World War I saw the decline in the numbers of large tanneries and a proliferation of small tanneries, a situation that exists in these clusters to this day. This is because after World War I, several wartime concerns went bankrupt, other European concerns wound up operations after the Depression and several other large tanneries deconcentrated after the Factories Act was enacted in 1934.

From the beginning of the 20th century, therefore, there was a consolidation of tanning activity, a process that had started a few decades before. Tanning saw the process of concentration of capital and the creation of the large factory to cater to army demand. These pockets of tanning activity, therefore, did not begin as small-scale clusters, but

15 Roy (1999)
16 Ibid
as ones with larger units surrounded by smaller ones. The kind of capital that subsequently came into the clusters either built up on this structure, as in Madras and the neighbouring clusters, or saw a deconcentration and the growth of an essentially small-scale cluster as in Calcutta. This, in turn was related to the kind of market that these clusters came to cater to, as the remaining part of this chapter will show.

A 1952 report on hides marketing showed that village tanners processed 43% of hides, whereas factories processed 50% (of which 30% was meant for export and 20% for domestic consumption) and the rest consisted of semi-cured hides for export\(^\text{17}\). In 1940, a report on Punjab described a hierarchy of tanning units in the province and this pretty much describes that situation in other parts of India as well. At the smallest scale there was the village tannery, which was mainly an artisan owned one, working with family labour, using fallen cattle, heavily indebted and contractually bound to the hide merchant in the town. In the middle was the ‘town tannery’, workshops with an artisan background with five or ten workers each, free to choose their suppliers and buyers, relatively better off and belonging to Khoja or Muslim hide trading backgrounds, and spread in small towns with slaughterhouses and a spot market in raw hides and skins. At the top of the scale were the ‘big factories’ employing sometimes a hundred workers, located in the major industrial towns and ports. Over a period of time, the middle rung also got concentrated in the different tannery clusters that were near important ports or sources of raw material availability. This structure continues to be fairly representative even today.

The decade of the 1920s also saw the consolidation of a new process- that of the creation of artisan clusters producing leather products, mostly footwear, in many parts of the country, through extensive migration by shoemaker artisans, the Mochis.

By the turn of the century, the demand for traditional articles had changed, as has been noted earlier. Many traditional uses of leather, such as the leather water bag, buckets, drums, containers, etc had declined. Elite urban demand for locally made traditional footwear was being replaced by that for western style footwear, made

\(^{17}\) India, Report on the Marketing of Hides in India, Ministry of Food and Agriculture, Delhi, 1952.
available by imports. In many areas even before, in the 1870s or so, leather artisans had learnt to produce western style shoes on a limited scale.

On the supply side, leather product makers faced a shortage of tanned leather in the rural areas due to the urban location of tanning, and this stimulated their migration to the cities, either to start family labour based small workshops, or to be employed in small units as piece rated workers. In 1908, leather footwear was found to be a prominent industry in Meerut, Agra, Kanpur, Lucknow, Allahabad and Benares. By 1924-25, this industry, in Agra alone, employed 25000 people with the entrepreneurs coming from the Hindus as well. Over large parts of India, therefore, these clusters catering to the domestic market came up and developed in different ways in different areas. Roy notes, "The organization of this industry was less like that of tanning, and resembled that in any skilled craft, with its eternal triangle formed by the karkhanadar, the independent worker and the dependent worker. An independent worker was one who sold (his labour) (matter within brackets mine) on the spot market, and had to absorb the price fluctuations that could prove unbearable. A dependent worker was on a putting-out contract. Dependence was safer and the only option available to an immigrant artisan. The karkhana was a particular form of putting-out, and the preferred option for a trader or substantial artisan trying to establish a brand image for his goods." Over a period of time, the tannery clusters and the product making clusters (enterprises within them) started entering into relationships with one another, and the nature of these inter cluster relationships got tailored to the way in which international trade developed. This, however was a development in the post-independence period and it suffices to state at this point that historical developments did influence the way in which enterprises related to each other within clusters, as well as between clusters.

18 Knorringa (1996) notes that in Agra, prominent entrepreneurs are Punjabis and Sindhis, with also some Muslims.
20 It must be mentioned here that there are no exclusive tannery clusters. What is meant here is the clusters such as Madras and Calcutta which developed initially as tannery areas and went into product making subsequently. Exclusive product making clusters, on the other hand, do exist and the Agra cluster is an example.
Having gone over the broad developments that characterised the evolution of the leather industry in India as a whole, the following two sections look at the specific evolution of the two clusters that have been analysed in depth for this study, Calcutta and Madras. It attempts to situate the differences and similarities between the clusters in their historical contexts for the colonial period and provides the background to an analysis of production and export performance in the more recent period.

4.4 History of the Calcutta cluster in the colonial period.

As has been discussed in the above section, the importance of Calcutta as a major centre for leather production came due to the facility of trade through the Calcutta port, which became a major centre for the collection of raw hides and skins from all over eastern India. Leather trade from Calcutta to the USA and Europe had been taking place from the 1820s onwards, but as in other parts of the country, it picked up only by the end of the nineteenth century. The Calcutta port was served by different railways and offered manufacturers and traders competitive freight rates and simple procedures of quotation. Before World War I, Germany was a major importer of raw hides and skins from India and German traders were one of the first to set up trading firms in Calcutta city. As for tanneries, the National Tannery (the first chrome tannery in eastern India) was set up in 1905 at Pagladanga in Calcutta by Sir Nilratan Sarkar, a major figure in the leather industry, as part of the development of indigenous enterprise under the auspices of the Swadeshi movement. World War I saw the sudden withdrawal of German enterprise from Calcutta and Britain became the major destination for Indian raw hides and skins for use by the British and German trading firms were replaced by British managing agencies as traders. During World War I, however, there was a fall in exports of raw hides and skins in general and the manufacture of leather began in order to utilize the raw hides and skins at the ports. The main people who set up manufacturing enterprises to tan leather were those

---

21 In 1913, Germany imported about 60% of cured hides from Calcutta port, Roy(1999).
22 During the early part of WWI, the British War office was directly purchasing raw hides and skins from India. The Government assumed monopoly over the trade in 1916 and from June 1917, the Indian Munitions Board took over the purchases from the War Office. All large tanneries were given massive orders for boot upper leather and harness leather on a large scale and this enabled them to grow substantively.
23 One of the reasons for this was the presence of German submarines in the Indian ocean which prevented movement of ships. The replacement of German trading firms with British ones did not substitute for the volumes that were traded with Germany.
involved in the trade in raw hides and skins, i.e., the British managing agencies and Indian raw hide traders and merchants.

By 1918, there were eight large tanneries in undivided Bengal (five in Calcutta), equipped with modern imported machinery and two large factories producing shoes. Five out of the eight tanneries were owned by Europeans and by 1922, the number of medium and large tanneries had gone up to fifteen. A major development was the setting up of the Calcutta Research Tannery in 1918 which actively collaborated with the private tanneries in introducing newer materials, better processes, etc.

Another development during the World War I was the cutting off of supplies of imported shoes and boots for civilian use in India. With this decline, domestic demand for footwear imitating imported styles came into existence.

From the beginning of the twentieth century, large numbers of small tanneries were also getting set up, and these were the precursors to the kind of units that exist today. A large number of Hakka speaking Chinese from the Kwangtung province of southeast China who possessed traditional leatherworking skills had moved to Calcutta in the late 19th century and had set up shoe shops in Dharmatala area and also small tanneries in the Dhapla and Tangra areas by the second decade of the twentieth century. The first Chinese tannery (Fo Shien) was set up in 1902, producing vegetable tanned leather for shoe uppers. By 1918, nine Chinese tanneries had been set up, and they took up chrome tanning.

Around the same time as the Chinese, two other sets of people set up tanneries—first, a group of Punjabi chamars who moved to Calcutta from Punjab, and second, a set of Bihari chamars who produced extremely low grade leather. Of these two the former group, who called themselves Adh Dharmis (they were followers of the fourth Sikh Guru Ramdas), were traditionally leather workers and weavers. They possessed traditional skills as traders and workers in the leather profession and had the advantage of being able to mobilize resources from within the community for setting up vegetable tanning units for producing shoe soles, an advantage that did not exist.

---

for other traditional communities in the occupation. The labour force in these units came entirely from among the Bihari chamars, although in these units, the proprietors also joined the workers in all operations on the shopfloor. In the second category of units set up by the Bihari Chamars, the resources available were very meagre and the proprietors of the units were barely better off than the workers and what constrained them was the inability to raise resources from anywhere. Both these sets of units adopted vegetable tanning and continue to exist in more or less the same forms to this day.

Most of the small-scale tanneries and also some of the larger ones that exist in Calcutta today came from these three types referred to above.

After World War I, most of the European concerns engaged in tanning wound up tanneries due to the depression in the leather trade. The Chinese bought off the machinery of these large concerns and by the 1920s, their number had gone up to 3025.

World War I provided another great stimulus to the industry through army demand. The eastern command’s demand was mostly supplied through Calcutta and the production of medium and large tanneries was exclusively reserved for defence, with only rejects and inferior leather being allowed to be sold in the market. The smaller tanneries started concentrating on production for the domestic market, which meant supplying to the vast numbers of shoemaking units owned by the Chinese and Mochis from Bihar that were scattered across the city26. These tanneries also got orders for supplying shoe upper leather from importers in Britain because several shipments consisting of large orders did not reach their destination27.

In 1941, a survey of leather industries in Bengal by B.M. Das, Superintendent of the Bengal Tanning Institute, found that there were 100 big and small tanneries in

---

25 This is indicative of the process of deconcentration from initial concentration of size that is a special characteristic of cluster formation in Indian leather clusters.

26 This is a process that did not take place in the Madras cluster and as a result, no part of the cluster caters to the domestic market there.

27 J.K De (1994) notes that this was because there were losses of consignments on the voyage and there was frequent sinking of merchant vessels, with only one out of three shipments reaching the destination.
Calcutta of which 95 were Chinese (this obviously refers only to the chrome tanning sector), about 3000 units producing modern handmade shoes and owned by the Chinese employing Bihari Mochis, about 3000 Mochis themselves making modern shoes and 7000 producers making indigenous shoes. In 1946, the Labour Investigation Committee found that the total number of unregulated tanneries was about 25028.

It can thus be seen that the Calcutta cluster developed in response to the international trade in raw hides and skins and tanned leather. It is also clear that while there seems to have been some institutional backup to the development of the industry through the setting up of research tanneries and the like, the main development of the industry was due to the efforts of specific ethnic groups that came with traditional skills. It is these units that were set up and continue to be relatively small in size that survived in the industry. In addition, Calcutta had a product making industry owned mainly by Chinese shoemakers that had started imitating imported shoe designs for a relatively more westernised population that provided a market for leather produced by these smaller tanneries. With the possibility for domestic orientation when production for export was reserved for large tanneries, these tanneries survived without needing to generate large investible surpluses. The workforce was strictly based on caste and the development of the industry was based on internal resource generation from within ethnic communities due to the notion of pollution associated with the industry and the aversion of traditional business and moneylending communities to advancing credit. This, as this study will demonstrate, has been one of the key features in the industry even today and has affected factors such as credit availability for modernisation in the industry. In Madras, in contrast, large scale tanneries came to be owned by Indian Muslim raw hide and skin trading families who could afford to make large investments to cater exclusively to the export market.

4.5 History of the Madras Cluster in the Colonial Period.
Unlike Calcutta, which developed as a major centre of leather production because of the port, the industry in Madras developed primarily in response to high raw material availability. As mentioned earlier, in the initial stages of its development in the mid

nineteenth century, a major boost was provided by the development of a technique by a Eurasian technologist, Charles de Susa, which prevented the oxidisation and discolouration of vegetable tanned leather on exposure to air, and thus improved quality of leather made out of skins. The Madras industry specialised in skins. In addition, in terms of livestock availability, the south’s advantage lay in goats and sheep, rather than cattle. The railways connected Madras to a wide area that supplies skins, from the Tamil countryside, to Southern Andhra, and from the Deccan to Orissa. Added to these advantages was the growth of Madras city as a destination for migrant labour as in Calcutta. From the time that de Susa’s factory was at work in Pondicherry, a tanning industry had developed near Madras. In 1857, experimental tanneries were set up in Madras and Bangalore to develop tanning methods. By 1880-81, India was exporting Rs.3.5 million worth of tanned leather and most of this was from the province of Madras. By 1905-06, this had grown to Rs. 41.1 million. While other parts of India traded in raw hides and skins, Madras exported tanned skins from very early on.

In the Madras area, the leather industry, from the very beginning, grew to cater to the export market and production units were more on a factory basis than on a cottage basis. Pallavaram, a suburb of Madras, and Ambur, situated about 110 miles west, saw a spectacular growth of factories during and before World War I and subsequently the industry spread to cover a large area of the North Arcot district.

World War I provided an impetus to the tanning industry in Madras because the British realised that South Indian avaram tanned leather was an excellent material for uppers of army boots. The Indian Munitions Board was set up and assumed control over production from 1916 onwards. After the war, increased demand for E.I. tanned leather was met through the import of wattle bark that was used in addition to the locally available tannins.

Another development after World War I was the shift from a system of auctioning of E.I. kips to that of direct buying. Earlier, kip producers from Madras Presidency

29 Ibid. This is because goats and sheep are adaptable to drier and drought prone lands, compared to cattle which thrive on grasslands.
31 All India Manufacturers Organisation (1948).
directly shipped their supplies to the London public auctions on a consignment basis and brokers in London would sort, grade and offer the goods on public sale, where the buyers would buy the grades and quantities they required. The tanner in Madras would receive the proceeds from the sale after a commission had been deducted. While the London auctions served to popularise E.I. leather, there were some disadvantages in this trade practice, such as the time taken for the transactions, the tanners’ own ignorance about the outcomes of the auctions, and their lack of control over the outcomes. From World War I, there was a shift from the auction system for E.I. kips to trade on CIF basis, where the sale was made directly by the seller to the buyer at rates decided by the Board of Trade in London. This facility was not made for E.I. tanned skins because they were not required for military purposes and they continued to be sold under the auction system for a long time and were hence subject to fluctuating prices based on supply and demand.

Historically, therefore, Madras developed as a tanning centre that supplied exclusively to the international market. Like in Calcutta, the development of tanning in Madras was because of military demand for tanned leather primarily for boot production. Production and incentive structures were geared primarily towards satisfying this demand and the industry did not develop beyond that demanded by the requirements of the British Army.

As early as in 1904, Chatterton attempted to analyse why the well developed tanning industry in Madras was not taking up changes in tanning methods and extending production to produce finished leather and came to the conclusion that while difficulties in acquiring the large amounts of finance for acquiring machinery, availability of skilled labour and the hot climate of Madras might be important factors, the main factor that would stand in the way of India’s production of finished leather would be the availability of a market. “It is absolutely certain that that the tariffs imposed by the continental nations and by America, if not sufficiently high to exclude Indian manufactured leather, will be immediately raised so as to prevent the possibility of finding a market in any of these countries. The only open market is in London, which is already fully supplied and competition is impossible as long as

---

foreign nations can ship their surplus production for disposal there at any price it will fetch.\textsuperscript{33} India was not in a position to influence import tariffs and export finished leather to these countries, and this situation continued to be true until 1973.

What is interesting about the development of the industry in Madras that contrasts it sharply with the industry in Calcutta is the absence of multiple ethnic groups in the leather business as entrepreneurs unlike the Chinese or Chamar entrepreneurs in Calcutta. Along with the setting up of large tanneries by the Europeans, the other groups such as the Chinese, and the communities that set up the vegetable tanyards established their businesses employing traditional artisanal labour. These groups came with artisanal skills even as entrepreneurs and set on a small scale with not much capital to begin with. In addition, a local shoe industry run by the Chinese had existed in Calcutta from very early on that provided a local market for tanned leather that helped many of the small units survive even when export production was done in large tanneries. When European concerns started shutting down after World War I, the Chinese started buying off the machinery from the larger tanneries and grew in size and in terms of number of units. In Madras, by contrast, while the early leather businesses were in the hands of the Eurasians, the main indigenous group that became prominent was the Muslims who accumulated large surpluses through trade in timber, seeds, wool, bark, etc in addition to leather. Some of these merchants had migrated from Kutch in the 1860s and continue to be in control of some of the largest leather businesses in Tamil Nadu even today. Because of their dispersed trading interests in raw products of various kinds, they had established networks for the collection and trade in these different raw products, including leather, and could ultimately exercise a greater control over the production chain. These entrepreneurs could set up factories on larger scales than in Calcutta because of the finance available to them and did not need a local market for tanned hides and skins that was necessary for the Calcutta tanneries run by the non-Europeans. In any case, Madras and adjoining areas did not have an important enough leather product making industry traditionally that could provide a local market for tanned hides and skins. Only a minority of the Madras firms was European. The largest Madras leather tannery, called the Chrome Leather Company, was set up near Pallavaram near Madras by a young European who was an

\textsuperscript{33} A.C. Chatterton (1904).
assistant in a Madras tannery and this firm supplied chrome leather for upholstery to a coach making firm called Simpsons. The area around this firm came to be subsequently known as Chromepet and is today distinct from Pallavaram.


The period after independence was characterised by the following features: First, there was considerable State initiative in encouraging the development of the indigenous leather industry, both to encourage exports of value added products and in order to take advantage of the international market. Second, while the leather industry grew in terms of size as well as exports, there was a great deal of similarity in the pattern of exports as well in organisational structure with the colonial period. What marks this period out in analytical terms is the fact that in spite of the State’s attempt to encourage exports of value added products such as finished leather and leather manufactures, the industry did not respond and continued to be a producer of semi-finished leather and an exporter of raw hides and skins and semi-finished leather. Third, both the pattern of exports as well as organisational structure were tailored to conditions in the international market. It was not until the pattern of international demand changed and state policy reflected conditions in the international market for leather and leather products that both export composition as well organisational structure changed. All these together implied that it is the pattern of international demand that dictated the pattern of development in the leather industry both by initiating cluster formation as well as by determining the structure of the clusters.

To elaborate on the above, between 1946 and 1954, two committees were appointed to look into the problems faced by the leather industry, particularly in Tamil Nadu. According to Usha.P (1984) the appointment of two committees in a span of less than a decade highlights how important the leather industry was considered. In 1957, the Central Government established an Export Promotion Council for leather in Madras, in order to seek new markets and to promote the exports of finished leather and leather goods. Another landmark during this period was the setting up of the Central

34 Roy (1999)
35 After the war, the Government of Madras set up an ad-hoc committee to report on the state of the leather industry in Tamil Nadu. In 1954, a Committee for Leather Industry and Trade was appointed to look into the reasons why the Madras industry’s exports collapsed in 1952. Government of Madras (1954).
Leather Research Institute (CLRI) in 1953 under the auspices of the Council for Scientific and Industrial Research (CSIR). Other developments were an All-India leather exhibition of the Indian Leather Technologists Association in 1956 in Calcutta, and the annual CLRI Leather Fair and Tanners' Get-together from the early 1960s. A special Export Promotion Scheme for Finished Leather and Leather Manufactures was initiated in 1962 and another leather Export Promotion Council was set up in Kanpur in 1963.

The industry however did not undertake changes in tanning processes and integrate forward into finished leather and leather manufactures. The pattern of exports remained the same in spite of trade doing very well. In the 1950s, there was a major increase in demand as well as prices of tanned skins to various countries in Europe. In addition, with UK joining the European Common Market in 1963, tanned goatskins and sheepskins were allowed duty free entry into all countries coming under the European Common Market. Over the sixties and until 1973, the composition was stable as Table 4.2 shows.

Table 4.2: Composition of exports (1960-61 to 1972-73)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Value (Rs. Cr)</td>
<td>Share (%)</td>
<td>Value (Rs. Cr)</td>
<td>Share (%)</td>
</tr>
<tr>
<td></td>
<td>38.07</td>
<td>100</td>
<td>40.85</td>
<td>100</td>
</tr>
<tr>
<td>Raw and Semi-Finished Leather</td>
<td>33.2</td>
<td>87.24</td>
<td>34.6</td>
<td>84.75</td>
</tr>
<tr>
<td>Finished Leather</td>
<td>1.78</td>
<td>1.69</td>
<td>1.95</td>
<td>4.77</td>
</tr>
<tr>
<td>Leather Manufactures</td>
<td>3.07</td>
<td>8.07</td>
<td>4.27</td>
<td>10.48</td>
</tr>
<tr>
<td>Total</td>
<td>38.07</td>
<td>100</td>
<td>40.85</td>
<td>100</td>
</tr>
</tbody>
</table>


Over 80% of total exports were accounted for by raw and semi-finished leather and this grew over time, in spite of state initiatives to encourage exports of finished leather and leather manufactures. The table, in fact, shows that the share of leather manufactures actually decreased between the mid-sixties and the early seventies.

These details have been obtained from Usha P (1984) and various issues of Leathers, the magazine published by the Council for Leather Exports for the concerned period.
Similarly, the product mix in the indigenous industry, as well as its size structure showed that semi-finished leather contributed the largest share with it going up over time, as tables 4.3 and 4.4 show.

**Table 4.3 Product mix in the factory sector**

<table>
<thead>
<tr>
<th>Products</th>
<th>Percentage share in</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1961</td>
</tr>
<tr>
<td>Semi-finished leather</td>
<td>89.67</td>
</tr>
<tr>
<td>Finished leather and products</td>
<td>10.33</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
</tr>
</tbody>
</table>


**Table 4.4: Size structure of enterprises in the leather industry in Tamil Nadu (1961 and 1970)**

<table>
<thead>
<tr>
<th>Sectors</th>
<th>1961</th>
<th>1970</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. of factories</td>
<td>Employment</td>
</tr>
<tr>
<td>Petty (0-9 employees)</td>
<td>17</td>
<td>121</td>
</tr>
<tr>
<td></td>
<td>(9.29)*</td>
<td>(1.58)</td>
</tr>
<tr>
<td>Tiny (10-19 employees)</td>
<td>42</td>
<td>605</td>
</tr>
<tr>
<td></td>
<td>(22.95)</td>
<td>(7.88)</td>
</tr>
<tr>
<td>Small (20-49 employees)</td>
<td>85</td>
<td>2723</td>
</tr>
<tr>
<td></td>
<td>(46.45)</td>
<td>(35.16)</td>
</tr>
<tr>
<td>Medium (50-199 employees)</td>
<td>39</td>
<td>4254</td>
</tr>
<tr>
<td></td>
<td>(21.31)</td>
<td>(55.38)</td>
</tr>
<tr>
<td>Total</td>
<td>183</td>
<td>7681</td>
</tr>
</tbody>
</table>

* Figures within brackets show percentages of each category in the total. Source: P.Usha (1984)

Semi-finished leather constituted an overwhelming proportion of output in the sector and in Tamil Nadu, most of the enterprises were small-scale sector enterprises.

It is clear from the above that the post-Independence development of the industry was similar to that in colonial times. Why did the industry not grow to the next stage, i.e., finishing and leather product manufacture, in spite of its
developed nature and state initiatives? In other words, why did the transition to value added production take place only after 1973, when exports of raw hides and skins were banned and that of semiinished leather restricted? The reason constitutes an important argument that is being made in this study, namely, that in the ultimate analysis, it is the international market that dictated change in the leather industry and it is only when policy initiatives reflected conditions in the international market that change occurred. Thus, while internal reasons such as the non-availability of sufficient capital for investment in finished leather production and that of skilled labour might have delayed production of finished leather, a major factor was that it was tanned hides and skins that were in demand from India in the international market, and not value added finished leather and leather manufactures.

As early as 1904, Alfred Chatterton, while analysing the reasons why the well-developed tanning industry in India was not taking up new challenges, came to the conclusion that "...even supposing all these difficulties (to do with machinery, skilled labour, etc) were successfully overcome, there yet remains the difficulty of finding a market for the finished skins. It is absolutely certain that the tariffs imposed by the continental nations and by America, if not sufficiently high to exclude Indian manufactured leather, will be immediately raised so as to prevent the possibility of finding a market in any of these countries."37 A UNIDO study observed later "Escalation of tariffs and in particular, further escalation in effective protection in many developed market economy countries severely hinders efforts of developing countries in increasing the degree of processing in this important sector".38 The Hide Cess Enquiry Committee39 also made similar observations. It was also seen that the rate and range of tariffs increased with the degree of processing. Therefore, it was not until the international market for leather and leather products changed

37 Chatterton, Monograph on Tanning.
38 P. Usha (1984)
39 India, Report on the Marketing of Hides in India, Ministry of Food and Agriculture, Delhi, 1952.
in the late 1960s and a major policy initiative in 1973 seized the opportunities provided by the international market, that both the composition of exports as well as organisational structure changed. These will be explored in subsequent chapters.

4.7 Summarising Changes in the Leather Industry in the Historical period.

What, then, can be said to be the salient points in the historical evolution of the industry?

First, the emergence of clusters for leather production took place in the colonial period in India and represented a major change in production organisation. From the mid nineteenth century, the development of international trade necessitated the production of raw hides and skins as well as of tanned leather in reasonably large quantities to permit trading, necessitating major changes in the organisation of production. Organisational change was reflected in changes in the unit of production, location of production, scale of production, technology and labour process. The industry got transformed from an individual unit based dispersed system of production to one based on much larger scales. When trade in raw hides and skins dominated, the network of agents and intermediaries to facilitate collection from a highly dispersed raw material base in the hinterlands developed. When trade in tanned leather became significant, the setting up of factories and the concentration of production around major centres of raw material availability or trade took place. Clusters, thus, emerged in the leather industry directly in response to international trade. They came up either around centres of raw material availability or ports.

Second, this major stimulus inducing change came about when the traditional economy was breaking up in an economic as well as a social sense. In an industry that might have died or declined due to the decline in several types of traditional demand, the external market provided a major stimulus that provoked reorganisation. With this reorganisation, India changed from being a pure raw material exporter to one supplying tanned leather too.

Third, in tanning, given that it was a relatively less skilled craft performed under primitive conditions, changes in organisation were dramatic. Tanning saw dramatic
changes also because it was tanned leather that was being demanded on the international market. The new organisation of production was very different from that of the rural tanner. With the decline in rural tanning and the setting up of urban tanneries, the various activities such as flaying, tanning and product making got separated from each other. Tanning became viable as a large-scale activity because of the ability to concentrate production at a single place, the existence of a large market and the availability of a large migrant workforce in the urban areas. Economies of scale could be reaped because tanning was space intensive as well as chemical intensive, the latter being cheaper in bulk. In contrast to the tanneries today, the major tanneries in colonial times were not catering to a highly fragmented demand in the international market, making large scales viable in itself. While there are a large number of medium and large scale firms in the industry today, the nature of their operations is not as isolated as it might have been in the colonial period, but is dominated by intense inter-firm linkages (between themselves as well as between them and smaller units) to respond flexibly to a highly fragmented demand. In colonial times, what might have been important in clusters would be agglomeration economies alone, whereas subsequent development in the post-independence period also saw the development of inter-firm linkages.

Fourth, the system of production that came into existence right from the beginning, and later in particular to cater to British war demand, made use of traditional social linkages and structures and the chain that connected rural areas to urban centres to satisfy these needs was intricately interwoven with caste structures. As far as the labour force was concerned, change involved the transition from the individual artisan to a wage worker, who was from within the artisanate.

Contractual feudal relations were replaced by contractual relations between flayers and the middlemen, or middlemen and the traders, or between the tannery workers and the owners, all these being influenced strongly by social hierarchy as with contractual feudal obligations. In all areas, the labour force in the tanneries came from traditional leather workers and in spite of flaying now commanding a price and workers in factories and workshops earning wages, the remuneration that they received reflected social hierarchy and low returns were justified by this hierarchy. In a sense, social structure with its inequalities and hierarchies adjusted perfectly to the
needs of the market. This social embeddedness as well as its flexibility is another aspect that influences economic organisation in the industry even today and is a feature of the clustering seen in the leather industry. The demand for cheap labour for production for the international market in the post-independence has reinforced this aspect and thus, both social structure and international demand are characterised by strong hierarchies that feed into each other.

Fifth, due to the needs imposed by colonial trade, an important aspect that influenced development in this industry was the institutional structure that developed to cater to the needs of the industry. As mentioned earlier, the State played a crucial role in developing technical capability in the tanning segment by popularising chrome tanning as well as setting up technical institutes to train manpower for tanning. There was a fair degree of interaction between prominent entrepreneurs and these institutions. This is an aspect that has been true even in the post-independence phase, with this industry seeing the development of a network of institutions to cater to various needs across the country. There has also been a fair degree of interaction between technical institutes, industry and the government that has built up on this tradition. This role of the state and public institutions is an important aspect of clustering which can play an enabling role in the development of clusters as seen elsewhere.

India's leather industry, thus, showed several features of successful clustering experiences in the historical period being considered. The kind of development that the leather industry saw in India represents an interesting aspect of cluster emergence that stands out in contrast to the emergence of clusters in other parts of the world. Clustering of production here resulted in a concentration of scales, in contrast to the emergence of small scale firm based clusters seen elsewhere, and this was related to the fact that the emergence of an indigenous tanning industry was a response to the needs of British war demand. Subsequent development of the clusters, after the phase of catering to war demand, saw a gradual deconcentration of production and the extent reflected the nature and size of capital available, the extent of local demand that existed, etc.
Finally, coming to the salient points regarding the development of the Madras and Calcutta clusters, it was seen how they developed in very different ways. In Calcutta, there was a proliferation of small units in tanning and product making and a large proportion of this was artisanal in nature. This had to do with the specific history of Calcutta as a traditional shoemaking centre and as a destination for migrant labour from traditional artisan communities. Although the entrepreneurs in the industry (the Chinese or the Muslims) were not from the traditional leather artisanal communities, the nature of entrepreneurship could be referred to as artisan capitalist, characterised by finance mainly from internal sources, high rates of mortality of enterprises, low dependence on institutions, non-corporate organisation, small scales and large numbers. In Madras, entrepreneurship passed from European hands into the hands of Muslim raw hide traders who had accumulated a lot of capital through trade in leather and other commodities, who invested larger amounts of money in the tanning business to cater exclusively to the export market and the nature of this production form could be termed merchant capitalist.

It may be asked at this point whether and to what extent the historical contrasts that were observed between Calcutta and Madras have influenced the subsequent nature of development in the industry in terms of size of enterprises, scales of production, technological development, response to export opportunities, access to credit, and so on. In other words, it may be asked to what extent history has been important in determining the path taken subsequently, in determining the kinds of institutions and structures that exist. This can be answered only when the post independence development of the industry has been analysed, and this is done in subsequent chapters.