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Human Resource and Skill Requirements in the

Leather & Leather Goods Sector (2022)

– A Report



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Human Resource and Skill Requirements in the Leather and Leather Goods Industry

Study on mapping of human resource skill gaps in

India till 2022

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1. Environment Scanning and Competitiveness of Leather and Leather Products Industry

1.1. Overview of Leather and Leather Products Industry

The post-liberalisation era has opened up a plethora of opportunities for the Indian leather industry. With global players looking for new sourcing options, India stands to gain a bigger share of the global market. India has a 2.62% share¹ in the global leather trade during 2006, with the exclusion of non-leather footwear; the share is slightly higher at 3.41%. The composition of exports has also been changing, with more and more value added products being exported. India has distinct advantages in the leather industry in terms of availability of raw materials. India has the largest livestock population in the world. This has enabled India to become a significant player in the world leather market, with exports growing at a CAGR of 11.9 % over the time period 2003-04 to 2007-08.

The major leather products and exports from India are hides and skins such as cow and bull calf, sheep nappa, goat skin, kid leather, wet blue, etc. Footwear and footwear components like shoes, shoe uppers, soles etc., leather garments, leather gloves, leather saddlery goods, leather travel bags and totes, leather purses, wallets, briefcases etc..

The composition of export of leather and leather products from India has undergone a structural change during the last three decades, from merely an exporter of raw material in the sixties to that of value added products in the nineties. The value added finished products presently constitute around 80% of the total export from the industry, which was mere 7% in 1956-57. With the

Around 50% of the total leather market in India is constituted by the footwear industry and the remaining is attributed to other leather products. The domestic industry is highly fragmented and around 70-75% of the industry capacity is accounted by large numbers of small scale manufacturers. In the organised segment Bata India is the largest player with a market share of almost 35%. Other major players include:

- Mirza International
- Relaxo Footwear
- Liberty shoes
- Superhouse
- Crew B.O.S products

¹ Council of Leather Exports estimate

- Supper tannery

1.2. Industry size and growth

India's leather industry is estimated to be worth US\$ 5 billion² with exports of leather and leather products accounting for nearly 70% of the total industry. Domestic sales account for about 30% of industry size.

1.2.1. Domestic Industry

The Indian footwear market is large and largely dominated by the unorganised sector. According to the industry, the current market size is estimated to be approximately 1.2 billion pairs per annum for hawai chappal and 1.2 billion pairs per annum for all other footwear (based on the assumption of per capita penetration of one each for hawai chappal and all other footwear). India is the second largest manufacturer of footwear in the world, next only to China. The key materials used in hawai chappal are rubber and EVA, in case of all other footwear, the key raw material is synthetic leather, accounting for almost 80% of the footwear industry.

Non-leather footwear industry has grown to be recognised as a separate industry. Non-availability of sufficient good quality leather in the domestic market, high cost of leather, high demand for low priced footwear and abundance of cheaper substitutes in the form of synthetics, are some of the factors that have driven the growth of the non leather footwear industry. Non-leather materials include those made from natural/synthetic rubber and synthetic polymers/plastics. Usage of plastics for footwear was done initially for replacing leather soles. Today, both nationally and internationally demand for 100% non-leather footwear is on the rise. Indian companies like Action, Liberty, Lakhani and many others manufacture not only for the domestic market, but also for exports.

Global experience has shown that more than 55% of the footwear made and used is from non-leather materials. The high volume low priced segment of footwear is dominated by non-leather footwear in both domestic and international markets. Currently the raw materials being used in the industry are poly urethanes (PU), thermoplastic rubber, rubber compounds, ethylene vinyl acetate (EVA), PU leather cloth, PVC leather cloth, woven/ non woven fabrics, polyimides, polyester/nylon/acrylic yarn, PU foam, cellulose board, leather board and cotton fabric. According to estimates by the industry, canvas shoes have a share of 55% in the closed footwear market, followed by rubber/PVC having 35% share and the remaining 10% comprising of leather footwear.

² Council for Leather Exports estimate

Sports footwear is increasingly becoming an important segment of the industry and constitutes more than 30% of the closed footwear market. Leading brand names like Adidas and Reebok are present in India for several years now. Sports shoes are now increasing becoming a major growth area in the industry.

1.2.2. Exports and Imports

Besides the domestic market, the leather sector is poised for growth in the export markets as well. Specific intervention has been planned by the Government of India and the Indian leather sector to increase the exports realisation to roughly US \$ 5 billion by 2010. The top ten destinations for exports are Italy, Germany, UK, USA, Hong Kong, France, Spain, China, Netherlands and Belgium. Finished leather products currently account for around 75% of the industry's total exports, compared to only 7% in the late 1950s.

Table 1: Exports of Leather and Leather Products from India (US \$ million)

Category	2003-04	2004-05	2005-06	2006-07	2007-08	CAGR
Finished leather	556	608	636	724	767	8.39%
Leather footwear	768	911	1,045	1,237	1,476	17.75%
Leather garments	301	329	333	310	344	3.39%
Leather goods	539	586	660	706	785	9.84%
Saddlery and harnesses	53	62	78	82	106	19.03%
Total	2,216	2,495	2,753	3,059	3,478	11.92%

Source: CLE, DGCI&S

Tamil Nadu is the biggest leather exporter in the country and the south accounted for 43% of the country's share in 2007.³

The Council for Leather Exports (CLE) has developed a plan to target increase in exports of leather and leather products from India from US \$ 3.5 billion in 2007-08 to US \$ 7 billion by the year 2010-11 at a CAGR of 26.1%. According to the road map, footwear would be the largest segment of exports by 2010-11 approximately about 65% of the total exports amounting to US \$ 4.5 billion approximately.

³ India Brand Equity Foundation

In terms of imports, it is primarily in the areas of finished leather and raw hides. Total imports in 2007-08 stood at US \$ 420.7 million.

1.2.3. Production Cluster

The production of non-leather footwear is mostly by the unorganised sector, constituting the small and cottage industry, which accounts for almost 80% of the total production. The unorganised sector caters to the domestic needs alone, while the organised sector caters to both domestic and export sectors.

The major production centres for leather and leather products are located in various parts of the country:

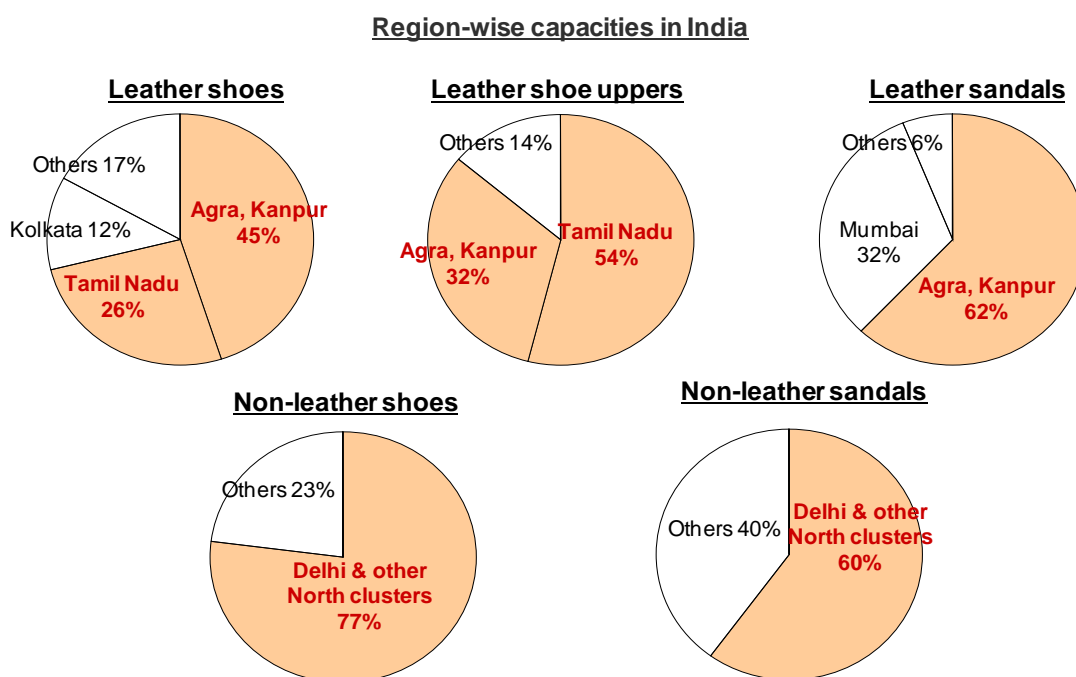
Table 2: Leather Clusters in India

Region	State	Cities / clusters
South	Tamil Nadu	Chennai, Ambur, Ranipet, Vaniyambadi, Tiruchirappalli, Dindigul
	Karnataka	Bengaluru
	Andhra Pradesh	Hyderabad
North	Union Territory of Delhi	Delhi
	Uttar Pradesh	Agra, Noida
	Punjab	Chandigarh, Jalandhar
	Haryana	Ambala, Gurgaon, Panchkula, Karnal
	Uttar Pradesh	Kanpur
East	West Bengal	Kolkata
West	Maharashtra	Mumbai

Source: Council for Leather Exports

The region wise capacity of footwear in the country is depicted below:

Figure 1: Region wise capacities for footwear in India



Source: CLRI

1.2.4. Production Capacity

The estimated product wise production capacity is provided below:

Table 3: Segment wise production capacities

Product	Capacity in 2007
Hides	65 million pieces
Skins	170 million pieces
Finished Leather	2 billion sq. ft.
Leather Footwear	909 million pairs
Leather shoe uppers	100 million pairs
Non-leather footwear	1056 million pairs
Leather Garments	16 million pieces
Leather Goods	63 million pieces
Industrial Gloves	52 million pieces
Harness and Saddlery goods	12.5 million pieces

Source: CLE

1.3. Leather Industry Segments

1.3.1. Finished Leather

The tanning and finishing segment in India has benefitted immensely from the large raw material base available domestically. This is on account of population of 194 million cattle, 70 million buffaloes, and 95 million goats. According to the latest census, India ranks first among the major livestock holding countries in the world. In respect of sheep with 48 million sheep, it claims the sixth position. These provide the basic raw material for the leather industry. The annual availability of 166 million pieces of hides and skins is the main strength of the industry. Some of the goat/calf/sheep skins available in India are regarded as specialty products commanding a good market. Abundance of traditional skills in training, finishing and manufacturing downstream products and relatively low wage rates are the two other factors of comparative advantage for India.

With tanning and finishing capacity for processing 1,192 million pieces of hides and skins per annum spread over different parts of the country, most of which is organised along modern lines, the capability of India to sustain a much larger industry with its raw material resource is evident. In order to augment the domestic raw material availability, the Government of India has allowed duty free import of hides and skins from anywhere in the world. It is an attraction for any foreign manufacturer who intends to shift his production base from a high cost location to low cost base. India produces 2 billion sq. ft. of leather annually.

India's export of finished leather touched Rs 38.3 billion in 2007-08, with a share of 22.05% in India's total export. In 2006, India held a share of 3.49% in the global import of finished leather.

1.3.2. Footwear and Footwear Components

India is the second largest global producer of footwear after China, accounting for 14% of global footwear production. It is the engine of growth for the entire Indian leather industry currently accounting for an export value of approximately Rs 60.6 billion (US \$1.5 billion), holding a major share of 41% in India's total leather trade.

Major category of footwear exported from India are Dress Shoes, Casuals, Moccasins, Sport Shoes, Horrachies, Sandals, Ballerinas, Boots, Sandals and Chappals made of rubber, plastic, P.V.C. and other materials.

Nearly 75% of India's export of footwear is exported to European countries and USA. The Footwear Sector is now de-licensed and de-reserved, paving the way for expansion of capacities on modern lines with state-of-the-art machinery. To further assist this process, the Government has permitted 100% foreign direct investment through the automatic route for the footwear sector. Nearly 75% of the total export of footwear components is from the Southern Region, the Northern Region has a 13% share.

1.3.3. Leather Garments

The Leather Garment industry occupies a place of prominence in the Indian leather sector. The product classification of leather garments comprise of jackets, long coats, waist coats, shirts, pant/short, children garments, motorbike jackets, aprons and industrial leather garments.

Among the three major exporting nations of leather garments, India has a market share of about 20%, in the EU market. Other markets for India include Italy, U.K., U.S.A. France, Spain and Netherlands. India's export of leather garments touched Rs 17.1 billion in 2007-08, with a share of 9.89% in India's total export. In 2006, India held a share of 8.29% in the global import of leather garments.

1.3.4. Leather Goods (bags, wallets, belts, gloves, accessories)

Items produced by this sector include, bags, handbags, handgloves and industrial gloves, wallets, ruck sacks, folios, brief cases, travelware, belts, sports goods, upholstery and saddlery goods. Leather Accessories forms an important segment of the Leather Industry in India. Leather Accessories production capacity is estimated to be 63 million pieces annually.

A surfeit of modern units in Chennai, Kanpur and Kolkata employing skilled human resources and equipped with modern and sophisticated machinery account for a diversified range of superlative small leather goods including bags, purses, wallets, industrial gloves etc. made of quality leathers of cows, sheep, goats and buffaloes. The products meet the requirement of bulk buyers and consumers in Europe, USA and Australia.

The major market for Indian leather goods is Germany, with an off take of about 25% of the total leather goods production followed by USA, UK, France and Italy. With products ranging from designer collections to personal leather accessories, this sector has a share of 20.53% in the leather industry, while maintaining an average growth rate of 11% during the period 2002-03 to 2007-08. India's export of leather goods touched Rs. 39.2 billion in 2007-08, with a share of 22.57% in India's total export. In 2006, India held a share of 5.16% in the global import of leather goods.

1.3.1. Saddlery and harness articles

India is one of the largest producers of saddlery and harness goods in the world. The saddlery industry was established in the 19th century primarily to cater to the needs of military and police. From then on initiatives were taken to develop, the industry and today there are over 150 units in the organised sector, out of which approximately 105 are 100% export oriented units. The estimated annual production capacity for the production of Saddlery & Harness is 12.50 million pieces.

Kanpur, in the state of Uttar Pradesh, is a major production centre for saddlery goods in India accounting for more than 95% of the total exports of saddlery items from India. Kanpur, because of its specialisation in tanning and finishing of buffalo hides is the only centre in the country where harness leather, which is major input for saddlery industry, is manufactured.

The major importers of Indian saddlery are Germany, USA, UK, France, Scandinavia, Netherlands, Japan, Australia and New Zealand.

India's export of Saddlery & Harness touched Rs 5.2 billion in 2007-08, with a share of 3.04% in India's total export. In 2006, India held a share of 9.00% in the global import of Saddlery & Harness.

1.4. Demand Drivers

The key drivers of demand in the leather industry are as follows:

- **Rising disposable incomes:** India has a large and growing middle income class constituting 350 million persons. The penetration level for footwear (both leather and non-leather) is only around 60%⁴.
- **Abundance of raw material:** India has the largest livestock population in the world. It has 22% of the world's large animals (cows, buffaloes, camels) and 10% of the small animals (goat, sheep, calves).
- **Improved access to new designs:** With the Indian economy opening up there has been rapid influx of foreign technology through foreign collaborations with indigenous firms which has resulted in improved access to new designs for domestic firms
- **India's emergence as a low cost manufacturing base:** There is an abundance of labour in our country available at competitive rates.
- **Government policy:** The government policies in the leather sector are conducive to the easy setting up and operation of leather producing units. The leather clusters in the country enjoy numerous set-up and export incentives.

1.5. Policy Initiatives

Salient policy initiatives of the government with respect to the Leather and Leather Products sector are given below.

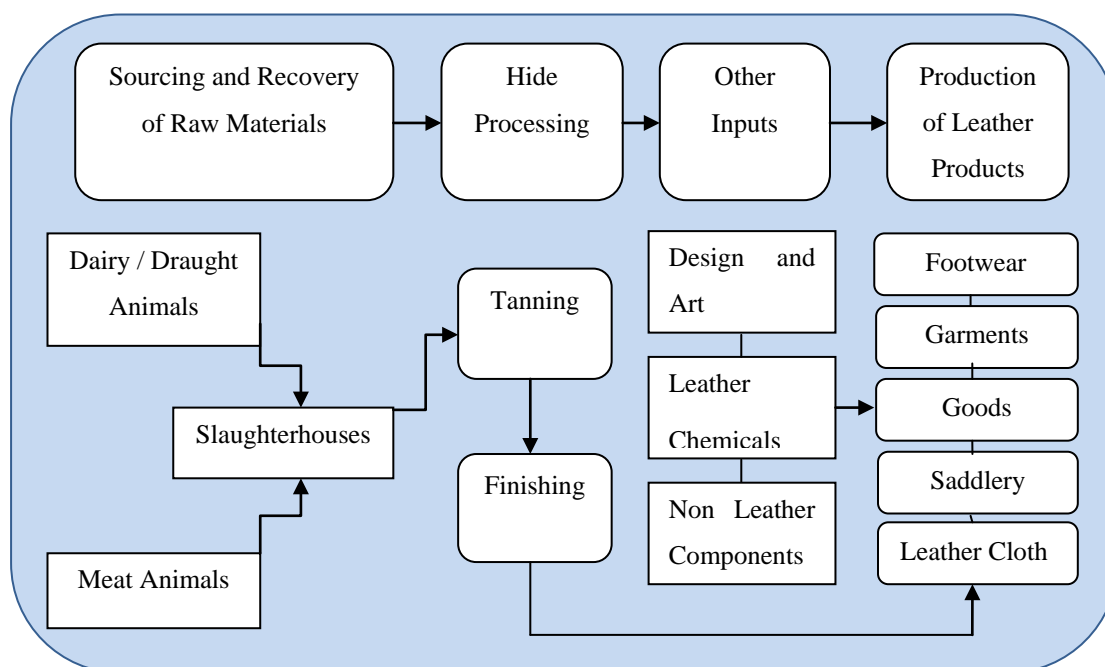
- The entire leather sector is now de-licensed and de-reserved, paving way for expansion on modern lines with state-of-the-art machinery and equipments.
- 100% Foreign Direct Investment and Joint Ventures permitted through the automatic route
- 100% repatriation of profit and dividends, if investments made in convertible foreign currency. Only a declaration to this effect to the Reserve Bank is required.
- Promotion of Industrial Parks (one leather park in Andhra Pradesh; one leather goods park in West Bengal; one footwear park in Tamil Nadu and one footwear components park in Chennai)
- Funding support for modernising manufacturing facilities during Tenth Plan period 2002-07
- Funding support for establishing Design Studios
- Duty free import of all types of raw materials

⁴ Indian Brand Equity Foundation

- Duty-free import of embellishments and components under specific scheme
- Concessional duty on import of specified machinery for use in Leather Sector.
- Duty neutralisation/remission scheme in place like DEPB and Duty Drawback
- Liberal import-export of consumer products and components
- Gradual lowering of import tariff - Peak Rate 10%
- Simplified import-export procedures, facilitating quicker customs clearances

1.6. Value Chain

Figure 2: Value Chain in Leather Industry



The leather industry utilises the by-products of slaughterhouses and transforms the raw material into various types of leather and manufactured end products. The leather production chain has three processing stages, each requiring different combinations of materials, inputs, labour and capital.

The first stage is the recovery of raw materials that has direct links with animal production activities. Hides and skins are recovered from dairy, draught animals or animals from slaughter houses. The second stage is leather tanning and finishing, which involves capital intensive operations. The third stage is the production of leather products, which is a labour

intensive activity. These three processing stages are linked to key commercial components of the chain, such as the marketing of intermediate inputs, components and end products, trade and consumption. The various inputs to the chain without which the chain cannot operate competitively are qualified labour, design and art centres, components production, access to chemicals, technical and administrative support institutions, research and development, training and a set of adequate policies.

1.7. Key Success and Risk Factors

To take advantage of the potential opportunity, the following are key success factors for firms in the leather industry:

- Focusing on exports by developing international quality products
- Developing new designs to be in touch with the latest fashion trends
- Being quality conscious - Quality of the product is critical as customers, especially international, are extremely quality conscious
- Branding is one of the important factors to distinguish the product and thus would be one of the key success factors
- Proper distribution channel to ensure smooth supply is also an important success factor.

The leather industry is exposed to the following risks:

- Fluctuating leather prices exposes the manufacturer to significant risk
- Stricter international standards as a result of increasing environmental awareness
- Skills shortages resulting in high labour charges could affect the leather industry
- Lower productivity in India compared to other countries such as China & Korea
- Lack of strong presence in the global fashion market
- Lack of awareness of international standards by many players

- Limited scope for mobilising funds through private placements and public issues (many businesses are family-owned)
- Difficulty in obtaining bank loans resulting in high cost of private borrowing
- High competition from East European countries and other Asian countries
- Lack of warehousing support from the government.

2. Human Resource and Skill Requirements in the Leather Industry

2.1. Current employment pattern

The leather industry as a whole employs around 2.5 million persons. The skilled and semi-skilled workers constitute nearly 50% of the total work force. Key production units are located in Tamil Nadu, West Bengal, Uttar Pradesh, Punjab, Karnataka, Andhra Pradesh, Haryana and Delhi. The industry uses primarily indigenous natural resources with little dependence on imported resources. Indian leather sector includes a complex grid of artisans, tiny, cottage, small and medium enterprises.

Table 4: Employment in Various Segments in Leather Industry

Industry segment	Workforce (All over India) in million	Percentage of Total
Flaying, curing, handling & transport, etc. of raw material - (Self employment)	1.00	40%
Tanning and finishing (organised)	0.10	4%
Footwear & Footwear components (organised)	0.20	8%
Footwear & Footwear components (cottage, household, and rural artisans in unorganised sector)	0.90	36%
Leather Garments, Goods, etc. (organised sector)	0.30	12%

Industry segment	Workforce (All over India) in million	Percentage of Total
Total	2.50	100%

Source: CLE

The share of employment in the self-employed/unorganised sector comprising raw material collection, curing, trading and household footwear production units etc. is 19 lakhs (76%). The remaining 6 lakhs (24%) are employed in the organised sector.

Among the sub-segments, footwear and footwear components is the largest, providing employment opportunity to approximately 1.1 million people, mostly from the weaker sections of the society. Out of this, about 0.2 million are employed in the organised sector, (30-40% women). Remaining 0.9 million people are engaged in unorganised footwear sector like rural artisans, cottage and household units etc.

Leather garments and other goods (including gloves, saddlery and harness, etc.) is another major sub-segment employing approximately 0.3 million people and mostly in organised sector.

Tanning and finishing is the third major sub-segment employing approximately 0.1 million people currently.

2.2. Regional and state wise distribution of human resource

In this section we will look at the regional and state-wise distribution of human resource employed in the finished leather and leather product industry:

Table 5: Regional Distribution of human resource

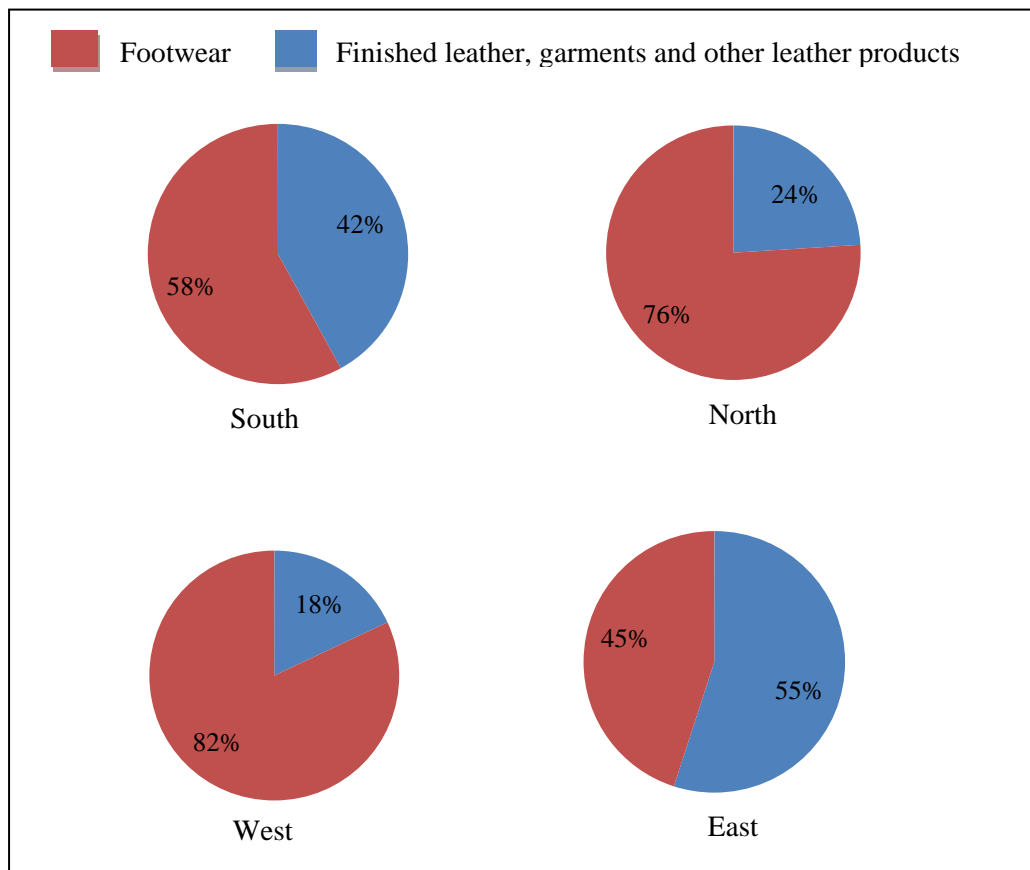
Region	Percentage Break-up
South	47%
North	35%
West	10%
East	8%
Total	100%

Source: Annual Survey of Industries and IMACS analysis

Southern region accounts for the maximum human resource employment followed by the Northern region.

The figure below shows the distribution of human resource employed by segments across various regions. Northern and western region employs people primarily in footwear segment whereas the percentage break up in southern and eastern region is more evenly distributed among footwear and other segments.

Figure 3: Distribution of human resource employed by segments in various regions



Source: Annual Survey of Industries and IMAcS analysis

Table 6: State wise distribution of human resource

S. No.	State	Percentage of total people employed
1	Tamil Nadu	42%
2	Uttar Pradesh	26%
3	West Bengal	7%
4	Haryana	5%
5	Punjab	4%
6	Delhi	3%

S. No.	State	Percentage of total people employed
7	Maharashtra	2%
8	Karnataka	2%
9	Rajasthan	2%
10	Andhra Pradesh	1%
11	Others	6%
Total		100%

Source: Annual Survey of Industries and ImaCS analysis

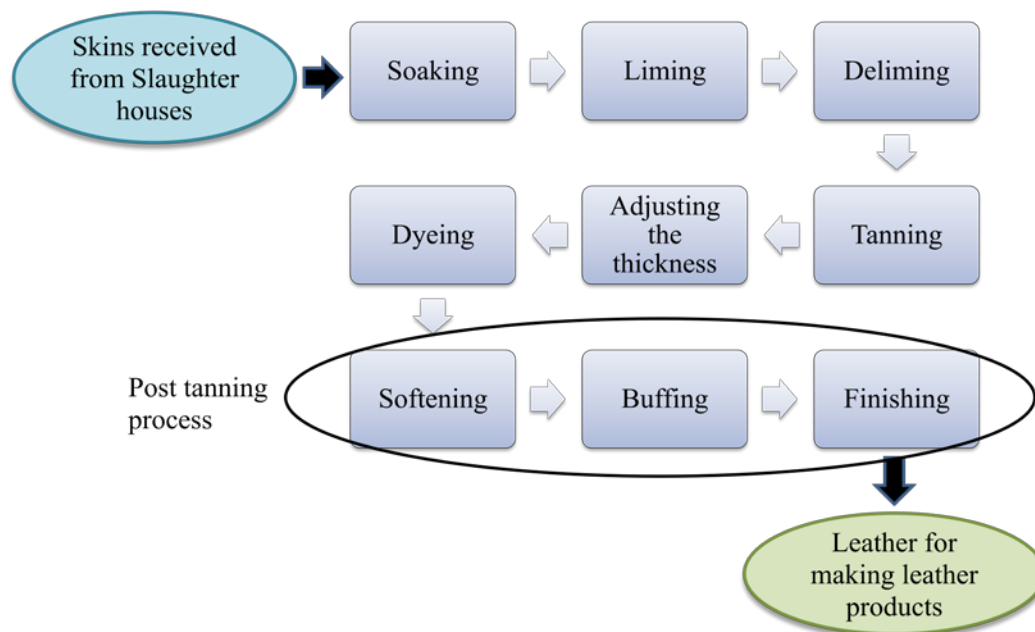
Looking at the state-wise employment of human resource in the leather product industry, the top five states accounts for approximately 84% of total employment with Tamil Nadu accounting for 42% of the total workforce.

2.3. Manufacturing process and functional distribution of human resource

2.3.1. Finished leather

The tanneries receive skins from the slaughter house in salted conditions which are then stored in cold storage. The process for converting the raw skin into finished leather is explained in detail below:

Figure 4: Manufacturing process and support functions



- **Soaking** – Under soaking, salted skins are soaked in pits and paddles to remove the salt from the skin and to rehydrate the skin. Paddles are used to give agitation to skins and thereby to equalise the soaking process when the skins are soaked in huge quantities
- **Liming** – In liming, unwanted hair and flesh is removed from the skin. Limestone powder is mixed with the water in pits and paddles to loosen the hair from the skin. Unwanted hair is removed manually using knives without damaging the grain⁵. Unwanted flesh is also removed using fleshing machines
- **Deliming** – Deliming involves preparing the skin for the tanning process by removing the liming and unhairing chemicals. It is carried out in rotating drums (wood/steel) using

⁵ Grain is the topper part of the skin, where hair is present.

ammonium salt to remove the alkali. It takes around 1-1.5 hours to complete the process. Pickling, lowering of the pH value of the skin, is also done to help with the penetration of certain tanning agent using salt and acids

- **Tanning** – Tanning is a process under which, the protein structure of skin is permanently altered, so that it can never return to rawhide. There are two types of tanning, Mineral tanning and Vegetable tanning. Under Mineral tanning, chromium salt is added in the rotating drums to process the skin and the output will be light blue in colour. While under Vegetable tanning, natural materials such as bark, wood, roots, leafs, etc. are used and the output will be light brown in colour
- **Adjusting the thickness** – Thickness of the leather is adjusted by using shaving machines. In case of very thick skins, splitting machine is used to split the leather into two slices, the bottom layer called as Split can be used for making lesser value leather products. The sliced skin again goes into the shaving machine to complete this process
- **Dyeing** – Dyeing of leather is done in rotating drums by mixing water, dyes and some special oils (soluble fat). Special oil is mixed to lubricate and to give flexibility and softness. Additional materials for filling the fibre structure can also be added (re-tanning). Penetration of colour will take minimum 6 hours. There are hundreds of varieties of colours and dyeing process that can be used to enrich the product. After dyeing, leather is dried in frames to keep them straight.
- **Softening** – Softening is done through staking machines. The number of times required for leather to go through the machine depends on its end use. There are exceptions to the softening process such as Sole leathers.
- **Buffing** – Buffing is done to remove unwanted extra flesh sticking to the leather. This needs to be done without damaging the grains and also without imparting any marks on them.
- **Finishing** – Colour penetration in dyeing process will happen only to an extent of 60-70% of the required level. Hence Auto spray machines are used to complete the colouring process. They are feeded with colour mixed with wax, binders etc and the same is sprayed using the guns inside the machine while the leather is moved into the machine using the conveyors. The whole process can be observed through glass windows in the machine. Dryers are attached to the machine, while the conveyors take the leather into the dryer making it as a continuous process. Finishing touches are then given to the leather with an objective to cover up the defects in the leather and also to print design on them.
 - The leather can be polished using the polishing machine.
 - Glazing machines with special glass at the end can be used to rub on the surface of the leather to bring out the gloss.

- Press machines to print design on the leather using the design frames can also be used.

The distribution of workforce across major functions in finished leather segment is provided below:

Table 7: Distribution of human resource across various functions in finished leather segment

Function	Percentage of people
Manufacturing/Production	80-90%
Sales and Procurement	2-3%
Other support functions*	10-12%
Total	100%

Source: Primary Research and IMaCS analysis

*Includes Finance, HR, Administration

Table 8: Distribution of human resource across various manufacturing activities in finished leather segment

Functions	Percentage of people
Pre-tanning	Soaking
	Liming
	Deliming
Tanning	15-20%
Post-tanning	Adjusting the thickness
	Dyeing
	Softening
	Buffing
	Finishing
Total	100%

Source: Primary Research and IMaCS analysis

Majority of the workforce is involved in the post-tanning activity. Some of the activities in post tanning, such as shaving, splitting, buffing, spraying, etc., are highly mechanised and requires use of skilled operators to operate the machines.

The education-wise distribution of workforce in finished leather segment is provided in the figure below:

Table 9: Distribution of human resource by education level in finished leather segment

Education Level	Percentage of people
CA, MBA and Other Graduates	1-2%
Engineers, Diploma or equivalent certification	2-3%
ITI and other vocational courses	1-2%
Class 12 th /10 th & below	90-95%
Total	100%

Source: Primary Research and IMAcS analysis

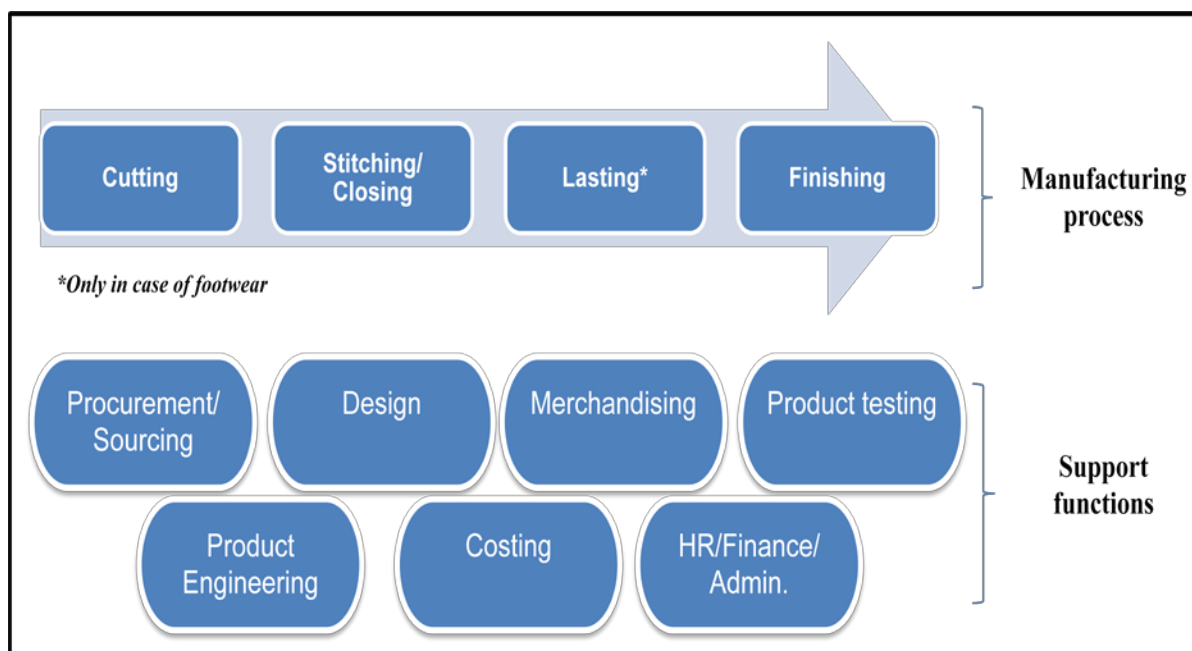
Current employment and training pattern in finished leather segment

As can be seen from the above table the majority of the people employed in the finished leather segment are in the class 12th/10th & below category. Some of the activities where these people are employed, such as shaving, splitting, spraying, buffing, etc., are highly mechanised but there is lack of training institutes/centres to train people to work on such machines. As a result, industry employs unskilled workers and trains them on the job and with experience they become skilled workers. It takes from few months to few years, depending on the complexity of the task, for converting these unskilled workers into skilled workforce. Another major problem area for tanneries is related to shortage of technicians (leather technologists, diploma holders, and engineers) who are in-charge of activities wherever chemical applications are used and also supervise overall production process. These problems are discussed in detail in the later sections.

2.3.2. Footwear and other leather products

Manufacturing in the leather industry involves the use of a range of handcraft tools and semi-automated equipment. Operatives normally work to a pattern supplied by the design team to complete the different stages of production. Major steps in the manufacturing process are depicted below:

Figure 5: Manufacturing process and support functions



- Cutting** – Cutting, also known as ‘clicking’, involves trimming and shaping leather or fabric sections for the upper, marking sections to indicate where to put stitches and working around flaws in the raw material that may spoil the finished appearance. Clicking is carried out to cut different components of footwear or leather goods as per the approved design or size. While clicking, it is essential to click the right component from the right area of the leather. Defective portion of leather should be carefully clicked so that the defective portion does not spoil the appearance of the finished product. Lining material is also clicked in this section. Clicking can be carried out mechanically using clicking press and also manually using clicking knives. It is the most important process in garment manufacturing. This is a very skilled job because leather is expensive hence waste must be kept to a minimum.

After cutting, certain additional activities may be undertaken. These include skiving (reducing the thickness of a certain edge of leather with the help of skiving machine/skiving knife to allow seams to be produced without the bulkiness), punching and eyeleting either by machine or by hand tools (in the case of footwear mainly to punch holes and to fix eyelets for inserting shoe laces and in the case of leather goods for decoration purpose) and perforating (to give the finished article a pleasing look as well as cover certain defects).

- Stitching/Closing** – Closing involves putting together all the different components to complete the ‘upper’ section in case of footwear and complete the product in case of garments and other products. Closing is done by stitching by using mainly a semi-automated sewing

machine, and pasting. In few cases of specially designed articles, closing is carried out only by pasting. Pasting is generally done with synthetic adhesives. Various edge treatments are also done to the leather to produce a more attractive look. In the case of footwear, at this stage the eyelets are inserted to accommodate the laces in the finished shoes. Closing is considered to be the most complicated process in the manufacture of leather gloves and needs to be carried out as efficiently as possible

- **Lasting** – This operation is carried out only for footwear. In this operation two-dimensional leather is given a three dimensional shape to fit the shape of the foot and to retain this shape for rest of life of the shoe. This stage is known as ‘lasting’ because operatives mould and shape the uppers into the finished form on a wooden or metal pattern called a 'last'. Thereafter the soles are attached either by stitching, or with adhesive. Soles can also be directly attached to the upper either by injection moulding or by direct moulding processes.
- **Finishing** – This is the most critical stage of production as it covers the defects that might have occurred during the production process. In case of footwear heels are attached and the soles and heels are trimmed to shape, the sole, heel and edges stained and the shoe is waxed and buffed.

The distribution of workforce across major function is provided in the figure below:

Table 10: Distribution of human resource across various functions in footwear and other leather product industry

Function	Percentage of people
Manufacturing/Production	80-85%
Designing & Sampling	2-3%
Sales	3-5%
Other support functions*	10-15%
Total	100%

Source: Primary Research and IMaCS analysis

*Includes Finance, HR, Administration

As seen in the table above majority of the workforce is involved in the manufacturing/production activities. Various activities and the percentage of people involved in the manufacturing/production function are provided below:

Table 11: Distribution of human resource across various manufacturing activities (manufacture of leather products)

Function	Footwear	Garments & Other Products
Cutting/Clicking	10-12%	15-18%
Stitching/Closing	60-65%	70-75%
Lasting	10-12%	
Finishing*	10-12%	10-12%
Total	100%	100%

Source: Primary Research and IMAcS analysis; *Finishing includes Quality control & Packaging

On an average 60-70% of manufacturing workforce in leather product segment is involved in stitching/closing across various segments. And given that manufacturing workforce accounts for about 80% of total workforce, it can be inferred that close to 50% of the total workforce in the leather product industry is involved in stitching/closing alone.

In case of unorganised and small scale units the percentage of the Shop floor/Operators/Workers/Support staff can be as high as 95%.

The education-wise distribution of workforce is provided in the figure below:

Table 12: Distribution of human resource by education level in manufacture of leather products

Education Level	Percentage of people
CA, MBA	1-2%
Other Graduates	3-5%
Engineers	1-2%
Diploma or equivalent certification	2-3%
ITI and other vocational courses	1-2%
Class 12 th /10 th & below	85-90%
Total	100%

Source: Primary Research and IMAcS analysis

Current employment and training pattern in footwear and other leather product segment

As can be seen from the above table the majority of the people employed in the leather product segment are in the class 12th/10th & below category. One of the major problems faced by the leather

product segment is that there is lack of training institutes/centres to train operator/shop floor workers (the major requirement in the industry) and almost all the players depend on the in-house training facilities. On the other hand at the supervisor and managerial level there is the tendency of employees to stay away from the manufacturing job (factory set up) and look for a sales or desk job. These problems are discussed in detail in later sections.

2.4. Education, Training and Demand Supply Gap

2.4.1. Education and training infrastructure

- **Finished leather segment** - There are five institutions in India which produce 150 B.Tech. / M.Tech. (Leather Technology) graduates per year to serve at the managerial level in the finished leather segment. Followed by this, another eight institutions of different State Governments annually turn out around 250 Diploma Holders to serve as Supervisors. The recently started National Institutes of Fashion Technology (NIFT) located in Chennai, Delhi and Kolkata supply nearly 100 Fashion Technologists/Designers to work at the Managerial level. But none of the institutions offer training to the shop floor level workers and machine operators who form the bulk of the workers participation.
- **Footwear and other leather products industry** - Coming to the Leather Products Sector, 25 institutions in the country such as the Footwear Design and Development Institute (FDDI), Central Footwear Training Institute (CFTI), Central Footwear Training Center (CFTC), Institute of Leather Technology (ILT) etc. impart training to students. Here again, out of 3,200 trainees passing out of these institutions per annum, 53% have degree, diploma or certificate courses (long term) as against 47% completing the short term (less than one year) courses. While the former group is absorbed as middle level managers/supervisors, the latter group is placed as Assistant Supervisors or Skilled Workers.
- **Private Company-level Efforts**- Most of the training of the workers at the shop floor level, machine-operators, stitchers, etc. has been undertaken by private companies. On-the-job training is provided to fresh recruits. More recently during the 10th Five Year Plan (2002-07) the Government of India's HRD Mission has earmarked allocation and sought to give an impetus to Human Resource Development in the Leather Sector for both unorganised and organised sectors. Part-funding of In-house training programs of workers in companies was also provided. In the 11th Plan (2007-12) too the allocation for Human Resource Development in Leather Sector has been considerably enhanced. Avenues exist for training companies and Industry Associations to undertake training of workers employable at entry level in factories.

Part-funding of in-company Training Programs in private companies is also part of the program.

Recently some initiatives such as IL&FS Cluster Development initiative and FDDI initiative have also started which are addressing the issue of training lower level workers but there is still huge demand for skilled lower level worker in the industry.

2.4.2. Training inadequacies and demand supply gap

- **Institutional Training Inadequacies:** Training Institutions play a vital role in determining the quality of the trainees. It is a crucial input that may have an impact on the promising leather sector. Except CLRI, FDDI, CFTIs and NIFTs, the rest of the institutions work in isolation, are obsolete in equipment and teaching/training methods (as per industry perception). The trained personnel have difficulty in getting right jobs at reasonable salaries. This is on account of more emphasis being given to theory - which has little relevance to the industry needs.
- **Demand-Supply Gap/Mismatch** - The above mentioned overview of existing facilities clearly indicates that the output of training institutions in the leather sector is not in accordance with the composition of the participation pattern of workers in the manufacturing industry. To sum up, all the leather sector educational and training institutions in India annually produce 3,800 personnel of which 60% comprises of B.Tech., M.Tech., Diploma and Certificate holders and the rest 40% constitute those completing the short term courses (less than one year) normally placed as Assistant Supervisors or Skilled workers. But over the years, efforts were not made to train and supply shop floor level workers and machine operators who constitute around 80-85% in the manufacturing units. So much so that there is hardly any specialised short term courses for training the shop floor level workers, machine operators and maintenance personnel whose participation is almost 80 to 90% in either tanning or products industry. This phenomenon clearly demonstrates that there is a mismatch in the demand and supply of manpower to the Indian Leather Sector and an acute shortage of required workforce.

2.5. Profile of people employed

The following table illustrates the profile of people employed in the leather industry

Table 13: Profile of people employed in the leather industry

Profile of people	Role in the organisation
CA, MBA Other Graduates	Management, Marketing, Accounts, Planning Assistants in various departments, rising up to Department Head level over time with experience
Engineers, Graduates & Post graduates from FDDI, CFTI, NIFT, etc., Diploma engineers with significant experience Diploma or equivalent certification, ITI/Vocational course candidate with significant experience	Marketing, Merchandising, Product Development and Engineering, Designing & Sampling, Production Planning Production supervisors, Maintenance supervisor, Store manager
ITI and other vocational courses, Class 12 th /10 th & below with significant experience Class 12 th /10 th & below	Line in-charge, machine maintenance Operators, assistants, helpers

Source: Primary Research and IMACS analysis

2.6. Skill requirements and skills gaps

There is a shortage of trained human resource in the industry across levels. This is more acute at the shop floor level, which holds significant proportion of the workforce engaged in the industry. At this level, skilled workforce comprises mainly of those who have worked for years in the industry and have acquired skills in a particular function, but have very poor knowledge of multiple skills.

There are some training institutes like CLRI, FDDI and CFTI, which have assisted in producing personnel meant for supervisory roles but there are not many institutions worth of note to cater to the demand for skilled workforce at the lower level. ITIs that train people for operator level do not have courses meant for the industry. Even in a strong production cluster like Kanpur, ITIs have continued to focus on textile related trades and not leather/leather products related trades. As a result, all the players employ unskilled workers and train them in-house, thus increasing the training time and resulting in higher costs and lower productivity. Most of the players do not face problems in getting the required number of people but getting trained persons has been a constant problem for the industry.

Also the industry does not have a high perception in the minds of potential employees and jobs in this industry are chosen only if other options are unavailable. Even technically qualified people, who have specialised in leather/ leather goods related courses, have moved to non-related fields like IT & ITES, chemical industry, retail, etc. Another major problem which is faced specifically at the supervisor and managerial level is the tendency of potential employees to stay away from the manufacturing job (factory set up) and look for a sales or desk job. This problem is particularly acute in tanneries where trained technicians (leather technologist, diploma holders, and engineers) have either gone abroad (China, Indonesia, Sri-Lanka, etc.), where they get higher wages, or have joined other domestic industries such as chemical.

Apart from the lower level workers there is also shortage of skilled human resource for important support functions like Designing, Merchandising and Product Development and this shortage is expected to be acute over the years as the industry evolves.

Any skill development initiative is expected to address the issue of formal and structured training for the leather and leather product industry. It is expected to bring down the training time and thereby lower cost and increase productivity for the employers. However, some part of skill development can only happen through practical experience and it cannot be substituted by training at the institute level.

2.6.1. Skill requirement and Skill gaps in finished leather segment

The skills issues related to finished leather segment, discussed below, are primarily from the manufacturing/production perspective. The top and middle management is directly involved in the sales and procurement function and no major skills issued faced in these function.

Table 14: Skill requirements and skill gaps in finished leather segment⁶

Function	Level	Skills required	Skill Gaps
Manufacturing /Production	Technicians/ Supervisor	<ul style="list-style-type: none"> ▪ Ability to oversee the entire production process ▪ Capability to determine the chemicals to be used for tanning and the quantity of such chemicals ▪ Ability to determine the chemical combination for 	<ul style="list-style-type: none"> ▪ Lack of leather technologists and chemical engineers who are willing to work in a tannery ▪ Most of the people working are either old or have learnt it through experience

⁶ Unless otherwise specified the skill gaps are from the perspective of either fresh entrants into the industry or junior/middle level personnel. With increasing experience in the same job the skill gaps decreases

Function	Level	Skills required	Skill Gaps
		dyeing <ul style="list-style-type: none"> ▪ Ability to prepare the mixture for the auto spray machine 	
	Machine operators	<ul style="list-style-type: none"> ▪ Ability to decide the pressure level in the fleshing machine for liming ▪ Ability to operate the splitting machine. ▪ Knowledge of how to adjust for the thickness and to ensure that there are no folds in the leather while feeding them into the machine. (Feeding of folded leather will damage the leather by creating holes in them.) ▪ Ability to operate the shaving machine without damaging the grain ▪ Ability to decide the right pressure and temperature for the press machine ▪ Ability to use the polishing machine without creating marks in the leather 	<ul style="list-style-type: none"> ▪ Lack of institutes to train workers to work on these machineries ▪ Insufficient knowledge about the machinery as operators have come up from the ranks of unskilled workers ▪ Not much knowledge of preventive and regular maintenance
	Semi-skilled Operators	<ul style="list-style-type: none"> ▪ Ability to identify the completion of rehydration process as the soaking time for the skin varies widely depending upon the time gap between the curing and soaking of the skin ▪ Ability to remove the 	<ul style="list-style-type: none"> ▪ Lack of sufficient institutes and training centres to train the shop floor workers ▪ Most of the skills learnt through experience and observing

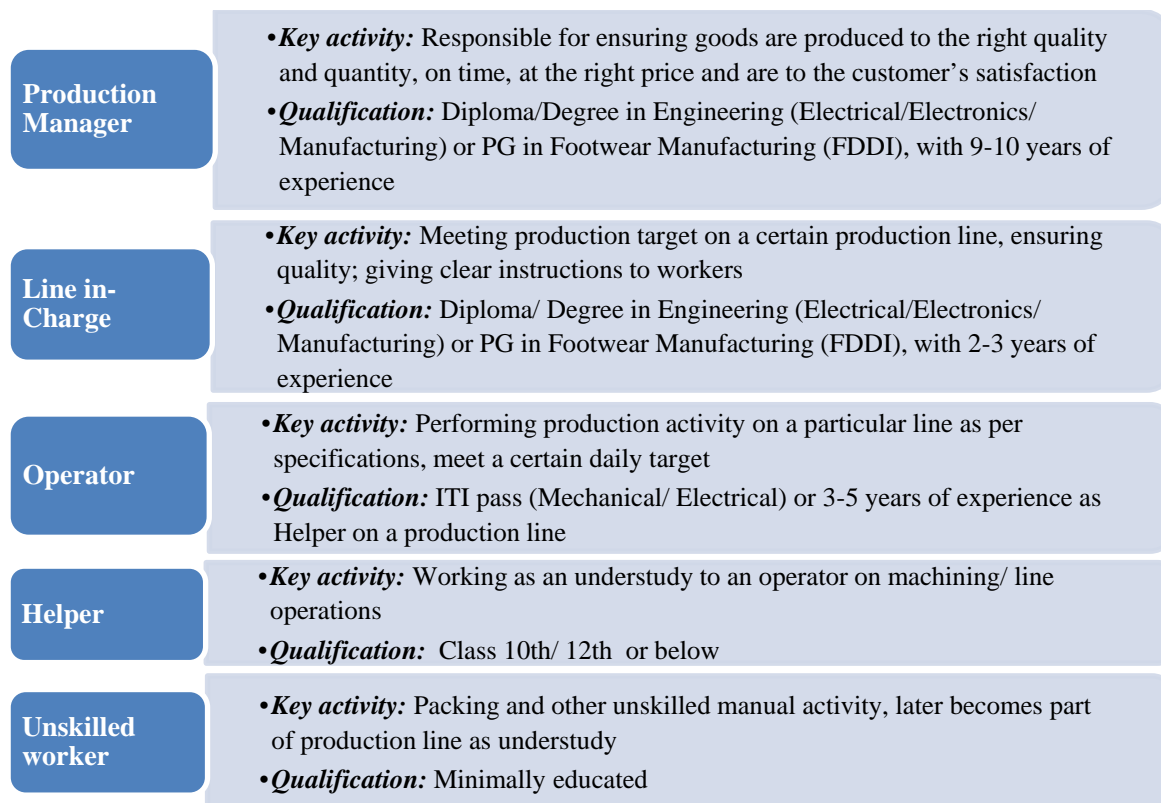
Function	Level	Skills required	Skill Gaps
		<p>unwanted hair from the skin using the knife without damaging the grain</p> <ul style="list-style-type: none"> ▪ Ability to decide the number of times to feed the leather into the softening machine to do an ‘even softening’ (too much of softening leads to loosening of leather thereby reducing its value) ▪ Ability to remove the unwanted flesh without damaging the grain while buffing 	
	Unskilled	<ul style="list-style-type: none"> ▪ Loading and unloading of material into paddles, drums, machines, etc. ▪ Assisting the operators 	<ul style="list-style-type: none"> ▪ Since they are unskilled there is no major skill expectations and gaps

Source: Primary Research and IMaCS analysis

2.6.2. Skill requirements and Skill gaps in Footwear and other leather products

In a typical unit in the leather product segment, manufacturing/production is the dominant activity. Thus we have elaborated on the key reporting/hierarchical ‘levels’ in production along with the activities performed and qualification required at various levels.

Figure 6: Levels in a production unit along with key activities and qualification



Source: IMaCS analysis

The following table details the skill requirements and gaps across various functions and levels in the leather product segment.

Table 15: Skill requirements and skill gaps in the footwear and other leather product segment⁷

Function	Level	Skills required	Skill gaps
Procurement/ Sourcing	Store manager / in-charge	<ul style="list-style-type: none"> ▪ Knowledge of the material such as leather, fabric, threads, etc., required in the production 	<ul style="list-style-type: none"> ▪ Lack of formal training in material planning and coordination to ensure

⁷ Unless otherwise specified the skill gaps are from the perspective of either fresh entrants into the industry or junior/middle level personnel. With increasing experience in the same job the skill gaps decreases

Function	Level	Skills required	Skill gaps
		<p>process</p> <ul style="list-style-type: none"> ▪ Ability to identify alternate sources of supply and maintain supplier relationships ▪ Planning and coordination to ensure timely and cost effective procurement ▪ Good negotiation and communication skills ▪ Knowledge of logistics service providers ▪ Planning and budgeting skills, to establish current and future requirements 	<p>timely and cost effective procurement</p> <ul style="list-style-type: none"> ▪ Inability to effectively address quality related issues in the input received ▪ At senior levels, there is lack of knowledge of planning and budgeting, to establish current and future requirements of the purchasing company, and to help determine budgets for purchases ▪ Communication and negotiation skills
Designing & Sampling	Designer (Ustaad)	<ul style="list-style-type: none"> ▪ Eye for detail, shape and proportion to understand the design/concept and develop product as per requirement ▪ Ability to understand customer's requirements and visualise designs accordingly ▪ Drawing skills and the ability to use CAD ▪ Knowledge of types of fabric and leather and their uses ▪ High level of competency in product development ▪ Oversee the production of sample and adapt design for mass production ▪ Knowledge of technical requirements and commercial 	<ul style="list-style-type: none"> ▪ Lack of practical exposure through internship as a part of course curriculum ▪ Effectively convert design of a particular sample given by a customer onto paper, in order to start production and give instructions for production ▪ Insufficient coordination skills, especially in cases where production is outsourced, to communicate the designs properly to the vendor, handhold the vendor and ensure final products are as per the specifications

Function	Level	Skills required	Skill gaps
		parameters as it is extremely important for a designer to keep in mind the target price	
Manufacturing /Production	Production Manager	<ul style="list-style-type: none"> ▪ Production planning and ensuring quality and timeliness of delivery ▪ Thorough knowledge of the production process and ability to oversee all parts of the production process, including sourcing, sampling, logistics, testing and quality control ▪ Detailed knowledge about the product and types of fabric and leather and their uses ▪ Organisational and planning skills to plan, monitor and alter production schedules when necessary ▪ Ability to overcome production bottlenecks such as machine breakdown ▪ Problem solving ▪ Man management skills ▪ Knowledge of budgeting and costing ▪ Liaising with in-house designing and sales team ▪ Good communication skills 	<ul style="list-style-type: none"> ▪ Lack of inclination to work in manufacturing (factory set up) ▪ Fresh graduates from institutes such as FDDI, NIFT, etc., lack in production engineering skills with expertise from planning to delivery due to limited exposure to manufacturing set up, as part of curriculum ▪ Cross-functional knowledge ▪ Aptitude to set up quality control mechanism at all levels ▪ Capability to lead people and achieve implementation of target by involving everyone
	Line Supervisor	<ul style="list-style-type: none"> ▪ Ability to meet the production target of a particular line, while ensuring quality and meeting deadlines 	<ul style="list-style-type: none"> ▪ Insufficient production planning skills, especially materials management ▪ Inability to control wastage

Function	Level	Skills required	Skill gaps
		<ul style="list-style-type: none"> ▪ Strong knowledge of the production processes ▪ Sound understanding of the materials to be used for a particular product ▪ Ability to clearly communicate instructions to operators and workers and monitor their performance ▪ Ability to fix production targets for workmen and measure their performance against these targets ▪ Ensure timely availability of raw material supply for smooth running of production process ▪ Co-ordinate with the maintenance department to ensure smooth running of machines and that machine faults are attended to ▪ Ability to motivate and manage others and lead by example ▪ Effective communication skills to instruct, guide and train the operators 	<p>(of material as well as man-hours) effectively</p> <ul style="list-style-type: none"> ▪ Insufficient knowledge of costing ▪ Aptitude to conduct thorough quality checks at all levels missing ▪ Communication skills and ability to motivate workers needs to be improved ▪ Lack of institutes to train people for supervisors in a leather manufacturing set up
	Operator (Cutting, Stitching, Closing, Finishing, etc.)	<ul style="list-style-type: none"> ▪ Knowledge of various hand tools, equipment and machinery ▪ Ability to follow design patterns and related instructions 	<ul style="list-style-type: none"> ▪ Insufficient formal training institutes for workers/operators ▪ Inadequate ability to undertake cutting and stitching jobs effectively

Function	Level	Skills required	Skill gaps
		<ul style="list-style-type: none"> ▪ Ability to identify defects and rectify them ▪ Eye for detail to ensure good finishing and quality ▪ Minimise wastages through proper planning and cutting of leather ▪ Ability to work effectively in a team ▪ Awareness of health and safety standards ▪ Normal colour vision to match stitching, patterns and dyes ▪ Physical fitness and strength 	<p>with minimum errors, for example:</p> <ul style="list-style-type: none"> • In case of a stitching operator who is given standard instructions to use different sizes of needles for different jobs, the operator does not even realise the importance of doing so • A cutting operator generally does not understand which part of the shoe comes from a particular part of the leather and the importance of cutting with minimum wastage and flaws • In the case of leather gloves, clicking the right number of gauges is very important after the cutting of leather, however operators make mistakes that lead to rejection ▪ Lack of skills to identify defects at any particular point in the production line and rectifying the same on time ▪ Callous attitude towards

Function	Level	Skills required	Skill gaps
			safety and health issues, even if sufficient awareness exists
	Helper	<ul style="list-style-type: none"> ▪ Assisting the operators ▪ Loading and unloading material ▪ Transfer of material from one department to another ▪ Physical strength 	<ul style="list-style-type: none"> ▪ Since they are unskilled there is no major skill expectations and gaps
Sales/ Merchandising	Merchandiser	<ul style="list-style-type: none"> ▪ Product knowledge and its linkages to material procurement, sales, and costs ▪ Good communication and negotiation skills as they are required to interact with international buyers ▪ Exposure to trends in international business ▪ Keen interest in tracking changing fashion trends ▪ Good coordination and communication skills to be able to communicate buyers' requirements to the Design/Sampling team, undertake trials for samples, communicate defects etc. ▪ Basic costing concepts 	<ul style="list-style-type: none"> ▪ Inadequate communication skills, especially when required to interact with international buyers ▪ Basic costing concepts ▪ Awareness and knowledge about the international market and changing fashion trends ▪ Inadequate negotiation skills

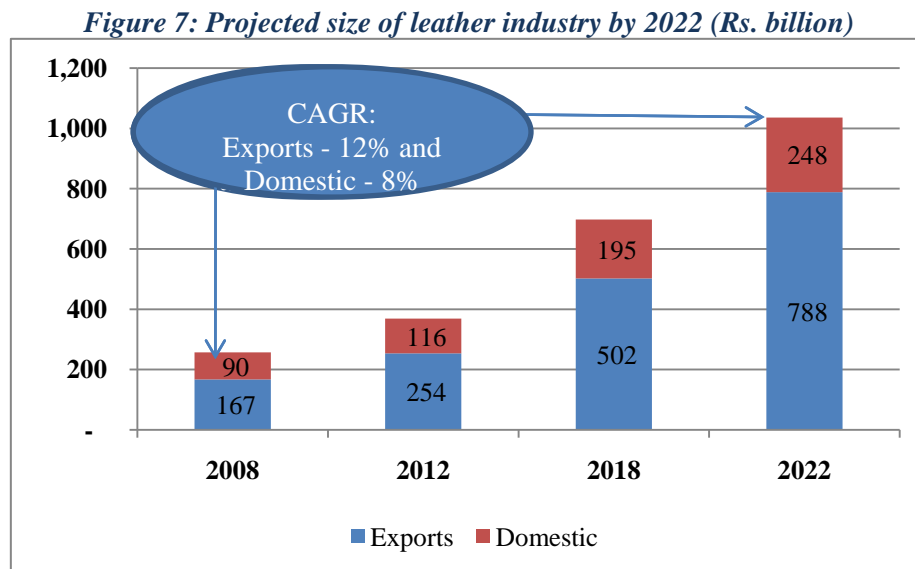
Source: Primary Research and IMaCS analysis

2.7. Highlights

- **Human resource issues:** Human resource related issues are two-fold in the leather industry
 1. At technician/supervisor/production manager level – Even though there some institutes to train people at this level but such trained people are not inclined to work in leather manufacturing set-up and thus they go into alternate industries
 2. At the operator level – At this level there is a lack of sufficient number of training institutes to train people at the operator level who can work on the shop floor. Short term training courses of three to six months duration will help in this regard.
- **Growth in exports specially footwear segment:** The Council for Leather Exports has developed a plan to target increase in exports of leather and leather products from India from US \$ 3.5 billion in 2007-08 to US \$ 7 billion by the year 2010-11 at a CAGR of 26.1%. According to the road map, footwear would be the largest segment of exports by 2010-11 approximately about 65% of the total exports. The footwear export from India is expected to almost treble from US \$ 1.5 billion in 2007-08 to US \$ 4.5 billion in 2010-11.
- **Maximum incremental human resource requirement in the stitching category:** As we have seen in earlier sections footwear and other leather product segment employs the maximum human resource and close to 50% of the total workforce in this segment is involved in stitching/closing. And given that no major technological breakthrough is expected, approximately 50% of the incremental human resource requirement in this segment will be in the stitching category.

2.8. Projected industry size

The growth in the leather industry will be primarily driven by exports and complemented by domestic demand.



Source: IMAcS analysis

The domestic market is also gaining importance as a potential growth area, and as a means for de-risking/diversification. It is expected that leather exports would be able to sustain a long term growth rate of about 12% given that it is highly correlated with India's overall growth in exports. Exports in leather are thereby projected to clock Rs. 788 billion in revenues by 2022. The domestic industry would account for about Rs. 250 billion in revenues by the same year⁸.

In terms of exports, the growth would be primarily lead by the footwear segment⁹. Value addition resulting in transition from finished leather into leather products and garments would be the way ahead. This trend has already been observed over the last few years.

Table 16: The changing structure of leather industry – segmental share of exports

Year	Finished leather	Leather footwear	Leather garments	Leather goods	Saddlery and harness
2004	25%	35%	14%	24%	2%
2005	24%	36%	13%	23%	2%
2006	23%	38%	12%	24%	3%
2007	24%	40%	10%	23%	3%

⁸ Our overall approach to macro-economic modeling and forecasting is explained in a separate annexure

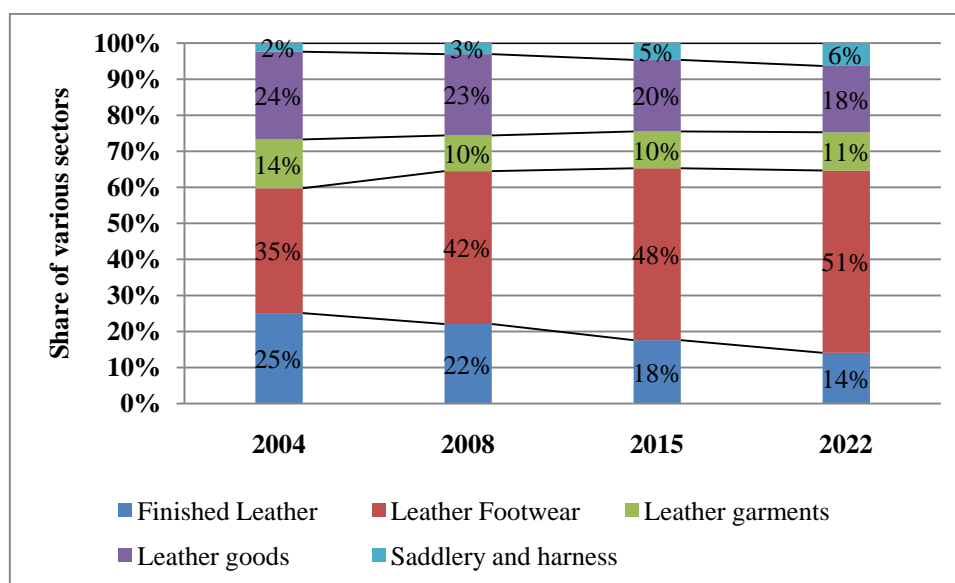
⁹ Indian Leather Industry – A Vision Document

Year	Finished leather	Leather footwear	Leather garments	Leather goods	Saddlery and harness
2008	22%	42%	10%	23%	3%

Source: CLE

While the share of finished leather in exports would decline from current levels of 22% to 14% by 2022, footwear would increase from 42% to over 50% on account of value addition over finished leather.

Figure 8: Structure of leather industry till 2022



Source: CLE and IMAcS analysis

2.9. Projected human resource requirement

We considered the following key inputs to project the future human resource requirement:

- The growth expected in the leather industry
- Changing structure of the industry
- Current profile of human resource employed in terms of:
 - Profile of human resource
 - Educational qualifications
 - Skill levels required across activities in the value chain.

The above have been detailed in the earlier sections.

The Council for Leather Exports has developed a plan to target increase in exports of leather and leather products from India from US \$ 3.5 billion in 2007-08 to US \$ 7 billion by the year 2010-11.

Based on the projections for export markets, the following table presents estimates of additional human resource required only by the exports segment of the leather sector for doubling of exports in certain segments:

Table 17: Human resource required by the exports segment in leather sector by 2011 (in '000s)

Product	Human resource / unit of production capacity	Human resource requirement
Finished leather	500 persons / million sq. ft	1,000
Footwear	400 persons / 1000 pairs / day	400
Goods	100 persons / 1000 pieces / day	32
Gloves	220 persons / 1000 pairs / day	15
Total		1,447

Source: CLE (Assuming 225 working days per year)

Based on our analysis for the long term forecast till 2022, we expect that the leather industry would employ about 7.1 million persons by 2022 from the current level of about 2.5 million persons, i.e., an incremental human resource requirement of about 4.6 million persons (domestic and exports). Footwear would be the largest employer accounting for over 44% of the employment and exports accounting for over 70% of the employment.

The employment in different segments of the leather industry is shown below.

Table 18: Human resource requirement in the leather industry between 2008 and 2022 (in '000s)

	2008	2012	2018	2022	Incremental
Flaying and curing	1,000	1,302	2,122	2,856	1,856
Tanning and furnishing	100	142	212	286	186
Footwear and footwear components	1,100	1,698	2,334	3,141	2,041
Leather garments and goods	300	503	637	857	557
Total	2,500	3,645	5,305	7,139	4,639

Source: IMACS analysis

The education-wise requirement of the above human resource requirement is detailed below. While a large proportion of the requirement is at the lower educational level, it should be kept in mind that these activities require adequate skills.

Table 19: Incremental human resource requirement – education-wise between 2008 and 2022 (in '000s)

	Ph. D/ Research/ Design	Engineers	Diploma	ITI and other vocationally trained	Other graduates	CA/ MBA/ etc.	12th/ 10th standard and below/ dropouts
Leather industry		70	116	93	186	70	4,106
Incremental human resource requirement				4,639			

Source: IMACS analysis

The incremental human resource requirement till 2022 across different functions is shown in the table below.

Table 20: Incremental human resource requirement – function-wise between 2008 and 2022 (in '000s)

	Design and Sampling	Manufacturing	Sales	Admin, Management, Support
Leather industry	116	3,827	186	510
Incremental human resource requirement		4,639		

Source: IMACS analysis

Having considered the industry activity across different states in the leather sector, the profile of investments being made in different states in terms of Industrial Parks, we expect that the employment activity would be led by Tamil Nadu, Uttar Pradesh, and West Bengal. The incremental human resource requirement for the leather sector across different states is illustrated below. Punjab and Andhra Pradesh are likely to be potential growth areas.

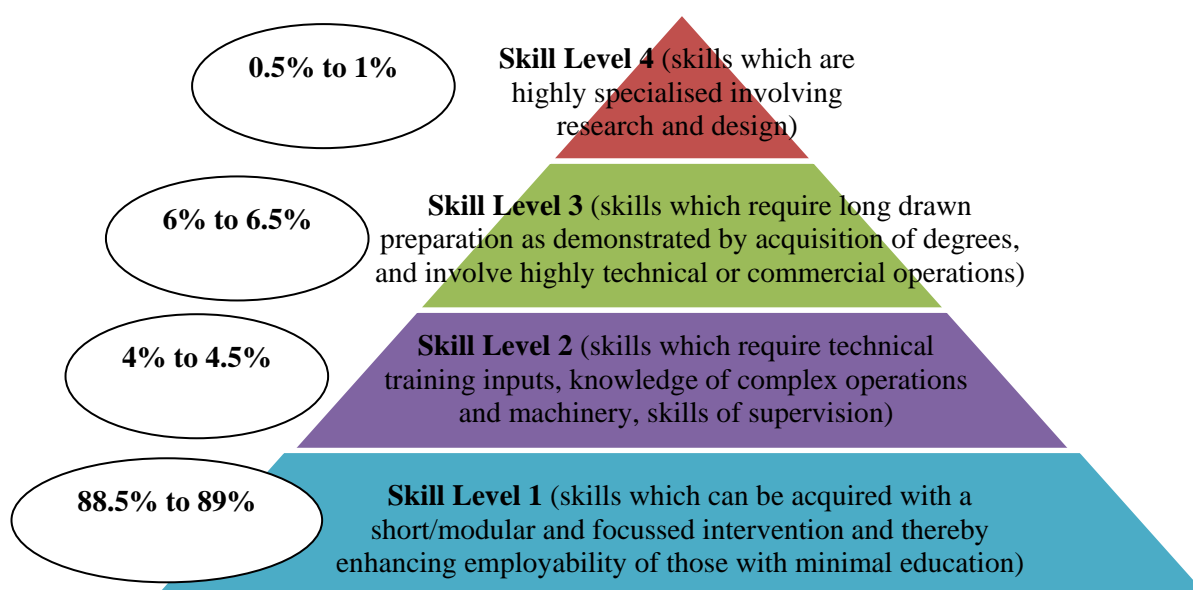
Table 21: Incremental human resource requirement across different states (in ‘000s) till 2022

State	Incremental requirement (in ‘000s)
Tamil Nadu	1,948
Uttar Pradesh	1,206
West Bengal	325
Haryana	232
Punjab	186
Delhi	139
Maharashtra	93
Karnataka	93
Rajasthan	93
Andhra Pradesh	46
Others	278
Total	4,639

Source: IMAcS analysis

Given that the industry would required a varied profile of skill sets, the following figure presents an overview of the profile of skill requirements as derived from human resource requirements across different sectors of the leather industry.

Figure 9: Skill Pyramid within the Manufacturing Function of the Gems and Jewellery industry



Source: Industry inputs, IMAcS analysis

The skill pyramid, in summary, captures where the leather industry stands relatively in terms of skills (a function of activity, educational requirements, and amount of ‘preparatory’ time required to inculcate a specific skill) as compared to all other industries.

As can be observed, the lower portion of the pyramid, ‘Skill Level 1’, has the highest incremental requirement of human resources. It requires persons who are minimally educated, yet can handle simple and/or repetitive tasks (persons employed in activities such as cutting/clicking, stitching, finishing, etc.). Such skills can also be obtained in lesser time duration as compared to engineering or ITI. As many as over 2 million persons are required across various skill levels outlined above.

The following table illustrates the incremental requirements in key skill sets for the leather industry.

Table 22: Incremental human resource requirement across key skill sets between 2008 and 2022 (in ‘000s)

Tanning (across pre-tanning, tanning, and post-tanning)		153	
	Leather Footwear	Garments	Total
Product Manufacturing	1,684	459	2,143
Cutting/clicking	185	78	263
Stitching and closing	1,044	331	1,375
Lasting	185	-	185
Finishing	269	51	320

Source: IMAcS analysis

The skills of tanning, cutting, stitching, and finishing are potential areas to channelise skill building initiatives in the leather industry going forward. Out of this **stitching** would be the major driver of human resource requirements where appropriate skills are required (requiring about 1.4 million ‘stitchers’ between 2008 and 2022).

This report has been prepared by **ICRA Management Consulting Services Limited (IMaCS)**.

IMaCS is a multi-line management and development consulting firm headquartered in India. It has an established track record of over 15 years in consulting across various sectors and countries. IMaCS has completed over 950 consulting assignments and has worked in over 30 countries across the globe. Through the process of carrying out several assignments over the last decade and half, IMaCS has accumulated considerable analytical and consulting expertise, backed by the following capabilities:

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The Education and Skills practice at IMaCS focusses on identifying skill gaps, mapping future skill requirements, and formulating strategies to address them. Our service offerings encompass diagnosis, design and implementation of education and skill development interventions for government and private sector.



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