



Tougher than Leather

Working Conditions in Indian Tanneries

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Cividep

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Samandrag

Denne rapporten er utarbeida av Civil Initiatives for Development and Peace (Cividep) i India på oppdrag for Framtiden i våre hender (FIVH), to organisasjonar som arbeider for ei rettvis global ressursfordeling, respekt for faglege rettar og omsyn til lokalsamfunn og miljø. Formålet med rapporten er å setje søkeljos på helse, miljø og sikkerheit ved ein av verdas risikofylte industriar – produksjon og skinn og lær.

Lærindustrien er kritisert for miljøforureining og farlege arbeidsforhold knytt til ekstensiv bruk av kjemikalier. Ulike helseskadande kjemikalier brukast i garveprosessen, deriblant krom som er kjent for å skape hudirritasjon og allergi, og som også er kreftrframkallande. I 2014 innførte EU forbod mot lærprodukt som inneheld meir enn 3 mg/kg krom.

Intervju med 12 arbeidarar ved tre ulike garveri gir eit godt innblikk i helse, miljø og sikkerheit i bransjen. Intervjua er gjennomført i den indiske regionen Tamil Nadu, som står for 6 prosent av læret på den internasjonale marknaden. Tamil Nadu fekk internasjonal merksemd for eit år sidan då ti arbeidarar som sov på garveriet der dei arbeidde drukna i ei sørpe av kjemikalier etter at ein ulovleg konstruert tank sprakk.

Lærproduksjon har lang historie i India, og landet har tradisjon for vegetabilsk garving. Den internasjonale industrien etterspør imidlertid billig og raskt levert lær, og dette har ført til utstrakt bruk av krom som gjer produksjonsprosessen kjappare. På garveria har arbeidarane kontakt med ein langt større krom konsentrasjon enn det EU tillèt i forbruksvarer.

Industrien gir alvorlige miljøproblem i produksjonsområda. Elver og grunnvatn rundt garveria er forureina av krom og andre kjemikalier. Forureininga gjer dei lokale vassressursane ubrukelege til både drikkevatt og jordbruksformål. I tillegg er vassforbruket på garveria ekstensivt noko som gjer dei lokale leveforholda utfordrande.

Arbeidarane får ingen kontrakter eller andre bevis på arbeidsforholdet. Dei får lønn etter akkord og produksjonsmåla er ekstremt høge. Kvinner er tilsett som assistentar og tener halvparten av mennene som arbeider som operatørar.

Til tross for risikoen knytt til garveria så viser intervjua at arbeidarane ikkje er opplyste om farane og verneutstyr er svært mangelfult. Garveria bryt FN's retningslinjer for sikkerheit. Lærarbeidarane som er intervjuja rapporterer om store helseproblem knytt til arbeidet:

- Kvalme, oppkast og hovudverk grunna gass og stank frå kjemikaliene. Det største garveriet har masker, men arbeidarane brukar dei ikkje grunna varme.
- Auge- og hudirritasjon som følgje av kontakt med kjemikalier. Vernebriller er ikkje tilgjengeleg. Arbeidarane får hanskar, men dei brukast i liten grad fordi dei gjer jobben vanskeleg.
- Dårleg hørsel som følgje av høgt støynivå i garveria. Hørselsvern er ikkje tilgjengeleg.
- Regelmessig feber grunna arbeid med våte skinn.



Summary

The tanning industry in Tamil Nadu accounts for around 60% of India's total tanning capacity, and nearly half of its leather production for export. The leather belt in Vellore district, consisting of Ambur, Pernambut, Vaniyambadi and Ranipet, and the state capital Chennai are the main centres of leather and leather product manufacturing in the state. Production in the state ranges from the preparation of raw hides for tanning to the production of 'wet blue', to the production of finished leather.

The environmental impact and the impact on the health of local communities and workers in the industry have been called into question repeatedly, demonstrably because of decades of acute pollution affecting local climate, water supply and agriculture, as well as accidents at tanneries leading to loss of life. The purpose of this study was to explore the state of occupational health and safety at Tamil Nadu's tanneries, by interviewing workers at three tanneries of varying size and capacity in Chennai and Ranipet. The scope of the study is limited, since time and resource limitations allowed us to interview only twelve workers. However, these conversations shed considerable light on poor labour conditions and inadequate occupational health and safety practices in the tanneries, which are a poignant reflection of conditions across the industry.

A large percentage of workers in the tanneries of Tamil Nadu are women, who work as helpers engaged in menial tasks. Men are usually the operators in charge of various processes like shaving, slicing and dyeing. Women workers usually have far less job security and bargaining power than men. We tried to maintain a balance between men and women in this study, interviewing equal numbers of men and women.

Increasingly, male migrant workers from the poorer eastern and northern states are coming to Tamil Nadu to work in the tanneries. These workers are usually given accommodation on the tannery premises, which is a deeply concerning health and safety problem. This was the case with the nine migrants who drowned in toxic slurry in an accident at a Ranipet tanning Common Effluent Treatment Plant (CETP) in January 2015. Migrant workers are often isolated and cut off from locals because of the language barrier, among other things. Three of the workers interviewed, who are employed at a small tannery in Chrompet (Chennai), are migrants.

The main chemical substance commonly used in the tanning process is chromium, which is a highly toxic carcinogenic substance. Workers are exposed to chromium constantly in the form of chromium sulphate.

The main findings in this report are:

- Workers interviewed are in most cases unaware of the hazards associated with chemicals that they handle, since the tanneries do not inform or train them on the matter. We found that none of those interviewed from the three tanneries knew how to safeguard against harm while handling these.
- We found that high noise levels at the tannery are a prevalent problem, and some workers complained about hearing problems.
- Workers complain of frequent bouts of fever, severe headaches, severe body, bone, joint and muscle pain, nausea, and reproductive health issues in some women's case. Coughing, headaches and eye irritation are other common problems. Some of these problems stem from workers being forced to work standing for long hours without adequate rest.
- Workers in Tanneries 1 and 2 work 8-9 hours every day, while in Tannery 3, the interviewees told us that they work for 12 hours.
- Daily targets are at times very high, are hard to meet and often lead to overtime. Some workers said that harassment take place when the target is not met several times in a row.
- Wages:
 - On average, workers (helpers) in Tannery 1 earn around INR 4000 per month. The machine operator interviewed is engaged on a temporary basis, and works for a piece rate. He is able to earn more money this way than as a permanent worker, the monthly salary for which would have been only INR 8000. Working at the piece rate, he earns INR 10000 per month.
 - In Tannery 2 helpers earn as little as INR 3500 monthly. This is because work is not continuous throughout the month, as one worker told us.
 - In Tannery 3 those interviewed earn between INR 8000 and INR 10000 per month.



- Some workers are forced to leave their jobs as a result of chronic body pain, reproductive problems and other health issues related to their work. No compensation is provided in these cases. Since most workers are on contract or work for piece rates, there is no Employee State Insurance (ESI) coverage.
- In case of illness or injury related to their work, the factory arranges for immediate first aid or treatment at a private facility, after which workers are usually left to deal with it on their own.
- In Tanneries 1 and 2, none of the workers interviewed had been given a piece of paper as a contract or any other document as proof of employment.
- To our knowledge there is no union or Health and Safety Committee at any of the tanneries. In the first two tanneries workers complain to the supervisor if they have a problem or grievance. However the problems are usually never resolved. Lack of proper grievance channels and mechanism at the workplace make it hard for workers to raise issues on working conditions and push for improvements.
- In Tannery 3 the three workers interviewed first said that they had no health complaints relating to their work. Later, only one of the workers said that he experienced regular headaches and back pain, as well as skin problems from the chemicals he came in contact with. Notably, the workers present were apprehensive of the management finding out that they had been interviewed, and about their identity or that of the tannery being revealed. They asked if they would be jailed if word got around or if the management found out. Under the circumstances, it is safe to assume that they were unwilling to disclose too much information.

The United Nations Industrial Development Organisation (UNIDO)'s Leather Panel¹ sets out guidelines for occupational health and safety among tanners, and for safeguards to be adopted in the industry, which is one of the most toxic in the world. Tanning is listed among the occupations involving hazardous processes by India's Factories Act, 1948. However, our study found that the conditions in the tanneries of Tamil Nadu are a far cry from the standards set out by the Leather Panel, and that there is widespread violation of the Factories Act and other Indian labour laws. Workers in the tanneries almost always hail from marginalized or minority communities and castes, since tanning and working with leather are traditionally considered dirty or lowly work. They hail from Scheduled Castes, usually lower castes whose traditional occupation has been leather work (like the Chamars), and the Muslim and Christian communities. Most Christian workers are Dalits who have converted to Christianity in the recent past.

Tanneries are guilty of violating the law, and of neglecting the workers' health, safety and wellbeing. Protective personal equipment (PPE) is provided in most cases, but is inadequate and use is not enforced. Workers are given no training on the health and safety hazards they face because of exposure to various chemicals, or on the necessity of this equipment, as a result of which they often do not use PPE. Some workers say that the management only enforces the use of PPE when inspectors, buyers and other external parties visit the factory. There are no fire safety drills, and safety notices are either missing or in a language that workers cannot read or understand. None of the tanneries have a Health and Safety Committee, which is in direct contravention of the law, since it is mandatory for hazardous industries to have such a committee. There are first aid boxes, but no first aid rooms, doctors or nurses as mandated by law. The canteen facilities are usually not open to local workers. Moreover, there are no medical checkups whatsoever, even though the law makes these compulsory for workers handling hazardous substances.

Corruption is rampant among government officials and government bodies responsible for monitoring industrial behaviour and compliance, as a result of which tanneries often obtain illegal safety certification or leniency in cases of violation of law by paying bribes. This was the case at the Ranipet CETP, where the illegal construction of the Secure Land Fill (SLF) tank was overlooked by officials in exchange for a bribe. The state government's eagerness to appear industry-friendly has also led to widespread neglect of workers' rights and wellbeing.

¹ The UNIDO Leather and Leather Products Industry Panel (known in short as the Leather Panel) is the UNIDO's global forum for technical assistance programmes for the leather-based industry sector. The Leather Panel provides information on good practices in small-scale manufacturing as well as professional training and pollution control procedures in the leather, footwear and leather products industries. (Source: <http://www.leatherpanel.org/>)



List of Abbreviations

AISHTMA – All India Skin and Hide Tanners and Merchants Association
CETP – Common Effluent Treatment Plant
ESI – Employee State Insurance Scheme
INR – Indian Rupee
ITI – Indian Technical Institute
MSMEs – Micro, Small and Medium Enterprises
PF – Provident Fund
PPE – Personal Protective Equipment
PVC – Polyvinyl chloride
OHS – Occupational Health and Safety
OT - Overtime
SC – Scheduled Castes
SIDCO – Ranipet Tamil Nadu Small Industries Development Corporation
SIPCOT – State Industries Promotion Corporation of Tamil Nadu Limited
SLF – Secure Land Fill
TN – Tamil Nadu
TNPCB – Tamil Nadu Pollution Control Board
UNIDO – United Nations Industrial Development Organization



1. Introduction

The leather and leather product manufacturing industry in Tamil Nadu is one of the main industrial sectors in the state, and a major contributor to the state's economy. Tamil Nadu is one of the largest actors in India's leather manufacturing industry, accounting for half or more of the country's tanning capacity and export-oriented leather production. Over the years, concerns have been raised regarding the environmental impact of the industry's production practices, as well as the impact on the health and wellbeing of local communities and workers themselves. Against the backdrop of a recent incident at a tanning Common Effluent Treatment Plant (CETP) in Ranipet (Vellore district) in which ten workers lost their lives, this study explores the nature of this impact specifically in terms of the occupational health and safety of tannery workers.

2. Description of the Industry

A search of the website of the Tamil Nadu Directorate of Factories and Boilers yields no statistical insight into the state's tanning industry. However, other central and state government websites are more revealing of numbers. According to the Tamil Nadu Government's Department of Labour, the number of factories manufacturing leather and related products in the state in 2008-2009 was 1046.² The total number of people employed in the sector was well over 100,000. In the years since, there has been an exponential rise in the number of leather and leather product manufacturing factories in the state. In major tanning centres like the state capital Chennai and Ranipet in Vellore district, the field is played by a number of big names. However, micro, small and medium enterprises (MSMEs) dominate the industry, as elsewhere in the country. According to the 2012 district-wise census, Chennai had the largest number of MSMEs engaged in the manufacture of leather and leather products with 2985 businesses, while Vellore district, where Ranipet and Ambur are situated, came second with 2154 MSMEs. These were followed by Kancheepuram, with 1785, and Erode, with 1053 enterprises.³

Growth slowed between 2011 and 2012, and there was a negative growth rate of 13.7%. However, the industry recovered significantly in 2012-13. In 2013-14, the growth rate was up again at 22.2%.⁴ Overall, the industry has experienced consistent growth over the last decade. Even though many of the small-scale factories were not originally registered with any statutory authority, there has been a steady rise in the number of MSMEs filing the Enterprises Memorandum (Part-II)⁵ over the last seven years. From only 383 filing the Memorandum in 2007-08 to 1,224 in 2013-14, there was another sharp jump to 2,302 in 2014-15.⁶ Tamil Nadu leads India in the number of registered factories for the leather and footwear manufacturing industry.

Tanning and the production of finished leather makes up a significant chunk of the industry. According to the All India Skin and Hide Tanners and Merchants Association (AISHTMA), the state of Tamil Nadu now accounts for around 60% of Indian tanning capacity in terms of production volume, and about 6% of the international finished leather supply is produced here. 36% of Indian tanning capacity is in Ambur, Pernambut, Ranipet and Vaniyambadi in Vellore district. Moreover, 50% of India's leather export comes from the state, mainly Vellore district.⁷

² *Tamil Nadu - An Economic Appraisal 2011-12 to 2013-14*. Department of Evaluation and Applied Research. <http://www.tn.gov.in/dear/Appraisal-II-PDF-2013-14/tab-S64.pdf>

³ *Tamil Nadu - An Economic Appraisal 2011-12 to 2013-14*. Department of Evaluation and Applied Research. <http://www.tn.gov.in/dear/Appraisal-II-PDF-2013-14/tab-S60.pdf>

⁴ *Tamil Nadu - An Economic Appraisal 2011-12 to 2013-14*. Department of Evaluation and Applied Research. <http://www.tn.gov.in/dear/Industry.pdf>. p. 91

⁵ Section 8 of the Micro, Small and Medium Enterprises Development (MSMED) Act, 2006 provides for filing of memorandum by a Micro, Small or Medium Enterprise. Sub-section (2) of section 8 stipulates that the form of the Memorandum, the procedure of its filing and other matters incidental thereto shall be such as notified by the Central Government. The memorandum may be filed by all three categories of enterprises with the District Industries Centre in the jurisdiction of which the enterprise is (or, is proposed to be) located.

(Source: http://www.dcmsme.gov.in/howtsetup/filing_of_EM.html)

⁶ *Entrepreneurs Memorandum (Part-II) Data on MSME Sector*. <http://www.dcmsme.gov.in/publications/EMII-2014-15.pdf>. p. 132

⁷ The All India Skin and Hide Tanners and Merchants Association. <http://www.aishtma.com/leathermap.html>.



55% of tanneries in India are medium and large scale, while 35% are in the small scale sector. Only 10% of tanneries are at the household sector level.⁸ As is evident, the leather tanning and finishing industry is one of the main industrial players in the Tamil Nadu, with the state leading India in the number of tanneries at 934 in 2009-10.⁹ This accounts for nearly 45% of all tanneries in India.



Map of Major Leather and Leather Product Manufacturing Centres in Tamil Nadu

3. Environmental and Health Impact

3.1. A History of Chromium Pollution

The tannery belt in Tamil Nadu has seen extensive pollution from chromium and other chemicals used in the tanning process, which has affected the health and livelihood of the population in the area. According to Bhaskaran (1977), a single tannery can cause the pollution of groundwater in a radius of about 7-8 km.¹⁰ Villages in the area surrounding Ambur town have suffered from a drinking water crisis for decades because of extensive chrome pollution from the tanneries. In 1991, the Vellore Citizen Welfare Forum filed a Writ Petition as a public interest litigation, in which it stated that the tanneries were discharging untreated effluent into the agriculture fields, roadsides, waterways and open lands in Tamil Nadu. The untreated effluent found its way to the river Palar, which was the main source of water for residents of the area. As a result, the surface and sub-soil water of the river was contaminated, resulting in non-availability of potable drinking water in the villages immediately surrounding Ambur. The State Government informed the Court that an acute shortage of drinking water had developed in 59 villages. As a result, the tanneries were given the option of either setting up common effluent treatment plants (CETPs) for a cluster of factories, or of setting up individual pollution control devices.¹¹ Rainfall has become scarce in the area in recent years, and the river Palar has dried up because of pollution, overexploitation by

⁸ *Indian Leather and Tanning Industry, Profile 2010*. Italian Trade Commission. <http://italiaindia.com/images/uploads/pdf/leather-industry-in-india-2010.pdf>. p. 13.

⁹ *Indian Leather and Tanning Industry, Profile 2010*. p. 14. <http://italiaindia.com/images/uploads/pdf/leather-industry-in-india-2010.pdf>

¹⁰ Bhaskaran, T.R. 1977. *Treatment and disposal of tannery effluents*. Central Leather Research Institute (CLRI), Chennai.

¹¹ *Pollution by tanneries in Tamil Nadu Case on precautionary principle and Polluter Pays principle*. Vellore Citizen Welfare Forum Vs Union of India & Ors., W.P.(C) No. 914/1991. <http://envis.mse.ac.in/problems%20pdf/TANNERIES.pdf>



tanneries and the change in climate. Groundwater in the area is also contaminated, as a result of which drinking water has to be delivered to the area in municipality tanks from further upstream. Agriculture, which used to be practiced in the area surrounding Ambur, has since come to a standstill.

There are about 80 tanning industries in and around Dindigul town and the adjoining areas. The tanneries require large amounts of fresh water for tanning - 3500 litres of fresh water are required for every 10 kilograms of raw skin.¹² As with Ambur, Dindigul is affected by drought. The water table is deep because of overexploitation for tanning and other industrial and agricultural purposes. The water has also become unfit for drinking and irrigation because of pollution by the tanneries.

In Pallavaram in the Chennai Metropolitan Area, which has around 152 tanneries primarily processing raw hide to wet blue, the groundwater in most sites is highly polluted and is unfit for drinking purposes. A study found that the quality of groundwater in the area had deteriorated mainly because of the intensive use of chemicals in the tanneries and solid waste dumping grounds around it. The tanneries make extensive use of ammonium sulphate, sodium chloride, sodium sulphate and chromium sulphate, and the effluents from these processes leach into the ground, leading to the contamination of groundwater sources. A high concentration of major ions and chromium was found in the groundwater. The dependence on other sources of water has increased, which is burdensome, particularly for lower income groups. The residents in the area have become completely dependent on water from the Palar, which is supplied by the municipality for drinking and other purposes.¹³

Tanning is one of the most toxic industries in the world because of its intensive use of chrome, which is known for its cancer-causing abilities. A chromium manufacturing chemical company in Ranipet was shut down after widespread pollution and its effect on the health of the population was protested by environmentalists. The state Health Department is supposed to alert residents of an area to the public health impact of the chemical operations of a factory on communities nearby, but this is never done.

3.2. Accidents at Tanneries and State Negligence

Accidents have often occurred while workers were removing effluent sludge from underground waste tanks. There have been instances of workers suffocating because of toxic gases discharged by the chemicals in the waste tanks. In July 2011, two workers cleaning waste or effluent died from suffocation in a tannery situated in a village near Dindigul.¹⁴

In January 2015, ten workers sleeping in a tannery next to a CETP set up by 86 tanneries in the Ranipet Tamil Nadu Small Industries Development Corporation (SIDCO) Industrial Estate drowned in toxic sludge in the early hours of the morning after the wall of an illegally constructed Secure Land Fill (SLF) tank collapsed. The precarious tank had been constructed in clear circumvention of legally stipulated standards, and had not received necessary clearance. Tamil Nadu Pollution Control Board (TNPCB) officials were later charged with accepting a bribe to not take action against the construction of the tank, even though they were aware of the violations. Nine of the ten were migrants from the eastern state of West Bengal. The compensation amount decided by the National Green Tribunal was later paid to the victims' families.¹⁵ After the incident, all the 78

¹² Mondal, N. C., and V. S. Singh. 2004. *Integrated approach to delineate the contaminated groundwater in the tannery belt: A case study*. Proceeding of the 2nd Asia Pacific Association of Hydrology and Water Resources Conference. pp. 436-444.

¹³ K.Ramesh, et al. 2014. *Impacts of Tanneries on Quality of Groundwater in Pallavaram, Chennai Metropolitan City*. International Journal of Engineering Research and Applications. www.ijera.com ISSN : 2248-9622, Vol. 4, Issue 1(Version 3). January 2014. pp. 63-70

¹⁴ Bengsten, P. (Danwatch). 2012. *Special report: Toxic chemicals used for leather production poisoning India's tannery workers*.

26th October, 2012.
http://www.theecologist.org/News/news_analysis/1651375/toxic_chemicals_used_for_leather_production_poisoning_indias_tannery_workers.html

¹⁵ *An Inquiry into the Death of Ten Tannery Workers at the Common Effluent Treatment Plant in*



functioning tanneries were shut down, but several – if not all – have reopened in August, according to our contacts in Ranipet.

Rampant corruption, the lack of political will to protect the health of workers, and the state's blatant protection of industry interests has contributed to the dire state of workers' occupational health and safety, as well as the danger to the health of local communities in the tanning belts of Tamil Nadu. The TNPCB collects data on pollution levels in industries and displays it online. However, this system is far from efficacious, since it is common knowledge in Tamil Nadu that industries obtain regulatory clearances by paying money to government officials. The TNPCB had noted in an inspection report in the previous year that there was no mechanism in place to deal with an emergency at the sludge drying bed in the Ranipet CETP.¹⁶ However, no action was taking, and the end result was an entirely avoidable loss of life.

4. Methodology of the Study

For the purpose of our study, we conducted twelve interviews with workers from three tanneries – two in Ranipet, and one in the capital Chennai. Time and resource constraints only allowed us to undertake research with this limited sample size, which is a limitation of this study. However, we managed to gain considerable insight into workers' situation in tanneries through these twelve interviews.

The tanneries were selected on the basis of - firstly - size and capacity, and secondly, our ability to access workers. Our objective was to obtain information on conditions and practices at large as well as small tanneries. With this in mind, six workers were interviewed from a large tannery in Ranipet with more than a thousand workers, followed by three workers from a smaller tannery in Ranipet and three from an even smaller one in the Chrompet-Pallavaram area of Chennai. We attempted to maintain a balance between men and women, and to include migrant workers – who are among the most vulnerable – while conducting our interviews. Six of those interviewed were men, while the other six were women. However, we were unable to strike a balance at individual tanneries. While mostly women were interviewed from the largest tannery, only men were interviewed at the smallest one in Chennai, which – in our defense – has only male migrant workers.

The workers unanimously requested that we abstain from mentioning their names and those of their factories in this report. We have respected this wish and have protected their identities by not mentioning the names of their respective tanneries, so that no worker who granted us an interview can be identified and targeted. We also wish to clarify that our purpose was not to target or vilify any particular tannery, but to hold a mirror to conditions in the tanning industry, which reflect the situation in tanneries across the state.

Ranipet, Tamil Nadu on January 31, 2015 (A Fact-finding Report by Cividep India). May 2015. (Unpublished Cividep report)

¹⁶ *Ranipet tanneries tragedy: lack of pollution control in Tamil Nadu.* The Hindu, February 5, 2015. <http://www.thehindu.com/news/national/tamil-nadu/ranipet-tanneries-tragedy-lack-of-pollution-control-in-tamil-nadu/article6848725.ece>



5. Demographic Information on Workers Employed at Tanneries

Tannery workers in Tamil Nadu often belong to marginalized or minority communities like the Muslim community and Scheduled Castes (SC). Another major aspect of labour in the tanning industry in Tamil Nadu is that many women are employed in tanneries in places like Chrompet (Chennai), Ranipet and Ambur. In the tanneries we visited, women were all engaged as helpers. Machines were usually operated by men. Tamil Nadu's tanneries also employ a large number of migrant workers from poorer states in northern and eastern India. These migrants are almost always men, and are usually from marginalized communities.

Some of the workers we interviewed work for piece rates, despite having been around at the tannery for several years. These workers, interestingly enough, were all men, and were in a secure job situation when compared to the women, who were all casual or contract workers. The latter's contracts are usually for a year, at the end of which many do not get a fresh one. Thus it is evident that women lack the job security and sense of informal permanency that exists for at least some of the men. It is interesting to note that all three male workers at a small tannery in Chennai were migrants who had a sense of permanency in their jobs that the local women workers in the two Ranipet tanneries lacked. Moreover, the men seemed to have more bargaining power than the women, even if they are paid piece rates.

6. The Tanning Process

The first stage in leather manufacture is the preparation of the hide for tanning. The skins are cured with salt to remove excess water, and then soaked in fresh water to remove the salt and increase the moisture level. This is followed by liming to remove hair, nails and other keratinous matter. After liming, the pH or acidity of the collagen is brought down by deliming the hides, followed by treatment with enzymes to soften them through a process known as bating. If mineral tanning is to take place, the hides are treated with a mixture of common salt and sulphuric acid. This process is known as pickling.¹⁷

Though both vegetable and mineral tanning were commonly practised in Tamil Nadu state earlier, most tanneries have now resorted to mineral tanning involving chromium in the form of chrome sulphate to expedite the process and reduce costs. Once the chrome has penetrated the hide, the pH level is raised again through a process known as basification. Raw chrome-tanned hides are blue, and are therefore referred to as 'wet blue'. Chrome tanning is much faster than vegetable tanning and takes less than a day to complete.¹⁸

The tanned hides are then split horizontally to produce an upper layer known as the grain and a layer near the flesh, called the split. These layers are processed again separately. They are often retanned to impart particular characteristics to the finished leather, using chrome or other synthetic tanning agents. The hides are then bleached or colored with natural dyes and synthetics substances, depending on what the finished leather will eventually be used for. After the wet processes are complete, the hides are dried, stretched to make them more pliable and less prone to shrinkage, and pressed to create a smooth surface. Depending on finishing requirements, the hide is then waxed, rolled, lubricated, injected with oil, split, shaved to achieve the desired thickness and evenness, and dyed. The finished leather is given the desired texture, look and shape in the final step.¹⁹

The entire process requires intensive use of chemical substances, the primary one being chrome. This is the case in most tanneries in Tamil Nadu. Machines are involved in the splitting of the hides and shaving of the finished leather. Shaving is undertaken by a shaving operator, who puts the

¹⁷ <http://www.leathernet.com/tanning.htm>

¹⁸ <http://www.leathernet.com/tanning.htm>

¹⁹ http://shodhganga.inflibnet.ac.in/bitstream/10603/15809/6/06_chapter%201.pdf



hides through a machine with a rapidly revolving cylinder to cut fine, thin fragments from the flesh side to reduce and/or even out the thickness throughout the hide. According to National Skill Development Corporation standards, the shaving operator should have good concentration, hand-eye co-ordination, monitoring ability, vision (including near vision, distance vision, color vision, peripheral vision), depth perception, and a quick response time or reflex.²⁰

6.1. Occupational Health and Safety Implications of the Tanning Process

The International Labor Organization's Hazard Datasheet on Occupation defines the primary risk areas and health hazards for tanners.²¹ A primary hazard is the exposure to leather dust and hazardous chemicals in processing baths, which can lead to skin rashes and irritation of the eyes and the respiratory tract, among other things. For machine operators handling moving machinery, accidents involving entanglement and the crushing of limbs are a major safety hazard. Major or minor cuts and other more severe injuries may occur while handling machinery. For those working standing up or semi-bending for long hours, and handling heavy loads like hides, skins and finished leather may suffer from fatigue and back pain. Helpers at Indian tanneries, who often tend to be women in Tamil Nadu, are particularly at risk of fatigue, back pain and musculoskeletal injuries from such tasks.

A number of risks are involved at each stage of the tanning process. Many of these apply to the workers we interviewed. While handling and storing raw material (hides), workers are prone to musculoskeletal injuries, anthrax from infected skins, skin allergies and respiratory diseases. Processes such as soaking and liming can lead to musculoskeletal injuries, eye irritation, skin allergies, accidents, injuries or falls, electrical shocks, respiratory problems, and lower back pain. In the actual chrome tanning process, exposure to chromium sulphate in the form of effluent and chrome dust can lead to skin irritation, chrome ulcers (on hands and nasal septum), respiratory problems and occupational asthma and chromosomal aberrations. Workers can sustain injuries to the tips of their fingers, hands and legs during splitting and shaving.²² Most of these risks can be mitigated through the use of personal protective equipment and the adoption of other safe practices by workers and management.

6.2. Adopting Safeguards

The United National Industrial Development Organization (UNIDO) Leather and Leather Products Industry Panel – or the Leather Panel for short – has identified health implications and risks associated with the tanning process in its training manual, which also delineates the safeguards to be adopted.²³ The important points of each health and safety aspect of tannery work are summarized below.

Chemicals

Labels on chemical containers, chemical danger signs and chemical safety data sheets are of utmost importance. Since complete information is difficult to accommodate on a label, additional information should be available in material safety data sheets. This should include chemical

²⁰ *Qualification Pack – Occupational Standard for Leather Sector*. National Skill Development Corporation, Ministry of Skill Development, Govt. of India and Leather Sector Skill Council. (<http://www.nsdcindia.org/sites/default/files/files/qp-shaving-operator-finished-leather.pdf>)

²¹ *International Hazard Datasheet on Occupation: Tanners*. July 2012. International Labour Organization. (http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---safework/documents/publication/wcms_190179.pdf)

²² *International Hazard Datasheet on Occupation: Tanners*. July 2012. International Labour Organization.

²³ *Occupational Health and Safety Aspects of Leather Manufacture*. 1999. Regional Programme for Pollution Control in the Tanning Industry in South East Asia, Regional Programme Office, United Nations Industrial Development Organization. (http://leatherpanel.org/sites/default/files/publications-attachments/occupational_safety_healthe_aspects_of_leather_manufacture.pdf)



product and company identification, information on ingredients/composition of the chemical, possible hazards classification, first aid measures, measures in case of accidental release, guidelines on handling and storage, information on how to control exposure and what personal protective equipment to use, etc. *No chemicals should be brought into the tannery if they are not properly labeled or marked.*

Chemicals emit fumes, mist, vapours and dust during storage and handling. All workers are at risk of exposure to airborne chemical pollutants in any part of the workplace. A number of preventive measures can be adopted to minimize exposure and risk. Hazardous chemicals can be eliminated from the factory floor whenever possible. The chances of exposure to hazardous chemicals can be limited. Most importantly, personal protective equipment can be used to prevent exposure. Simple changes in the production process can reduce the release of chemical fumes, vapours, gases and dust containing chemicals. Exhaust ventilation on dry shaving, buffing, dedusting and other machines can significantly reduce emission. Exhaust fans and vents for push ventilation should be provided in areas where chemicals are stored, and where a number of these processes take place. Adequate pull ventilation should be available in adjacent work areas to prevent contaminants from entering them. To keep humidity, temperature and fume concentration low, adequate natural and artificial ventilation should be provided.

Eating, chewing, drinking and smoking should be forbidden in work areas where hazardous chemicals are present, and workers must thoroughly clean and wash exposed parts of the body after handling chemicals or processes involving chemicals. It is therefore very necessary to provide adequate washing, changing and clothes storage facilities.

The most important safeguard is informing workers on the risks associated with the various chemicals and training them on safe work practices in handling these.

Machinery

A variety of things could go wrong while handling machinery used in processes such as shaving, fleshing and setting. These include fingers/forearms getting trapped between rollers and bladed cylinders, contact with the grinding wheel of a shaving machine, the knife band of a splitting machine, or a rotating fleshing cylinder. There is also a risk of contact with live electrical parts or parts of a machine that are very hot.

Availability of operating manuals, records of maintenance details, a replacement schedule, daily pre- and post-operation checks and maintenance work are a must. Maintenance systems must be in place to control emission levels of noise, vibration, radiant heat, dust, gas and vapours. Vibration or noise control devices, as well as local extraction and exhaust equipment must be in place.

In older machines where noise cannot be controlled, the machine must be encased to soundproof it, such as within noise absorbing walls, or alternatively relocated to a separate location. When this is the case, machine operators and workers must be provided with hearing protection gear.

Ergonomic Risk

Manual handling and carrying of hides, skins and finished leather - which are bulky and heavy - must be kept to a minimum in order to prevent musculoskeletal injuries, chronic fatigue and body pain. Some countries have specific limits for the maximum weight workers can lift or handle during a workday.

Noise

Exposure to excessive noise can affect workers' ability to concentrate, result in mental stress and lead to irreversible partial or complete hearing impairment or loss. Workers who spend more than five hours a day with high levels of noise are at risk of damage to their hearing. As mentioned earlier, the noise level of each machine must be controlled through maintenance work, enclosure, or by shifting noisy machines to an isolated or soundproofed location.



Personal Protective Equipment (PPE)

Protective clothing such as gloves, safety shoes or boots and aprons, hearing protection, protective goggles and shields and respirators should be provided at the tannery. Respirators cover the mouth and nose, and prevent chemicals from entering the body through inhalation. They must be worn wherever the concentration of dust, vapours and fumes is high. Safety glasses or goggles protect the eyes from chemical splashes and exposure to dust, vapours, mist and fumes, or foreign bodies like splinters. Hearing protection, such as ear muffs or plugs, must be provided whenever the continuous noise levels are 85 decibels or above.

Gloves, aprons, boots and overalls made of water-proof material should be provided to workers, and must be worn in all wet-processing areas of the tannery and effluent treatment plant, and while handling chemicals. This prevents contact of chemicals with the skin and contaminants entering the body. The specific circumstances should be kept in mind while selecting and providing personal protective equipment, like the material of the glove (rubber, nitrile, neoprene butyl, PVC, cotton, leather), its thickness based on durability and level of protection, the type of grip surface and the length (wrist, elbow, full arm).

Workers are often reluctant to use protective equipment because they are not accustomed to them, or feel uncomfortable using them in hot or humid conditions. Workers must be trained, and informed of the possible ill-effects of exposure as a result of them not wearing personal protective equipment. Clear and correct instructions must be given regarding when or where personal protective equipment needs to be worn. The management must ensure that workers comply at all times.

Fire Prevention and Safety

Workers should be able to escape from any part of the tannery during a fire. Fire exits must be clearly marked and open for free exit. There must be regular checks to see that firefighting equipment is filled and ready for use. The location of the firefighting equipment must be clearly marked, and workers should be trained to use them. All present in the tannery must be trained on what to do in case of a fire.

Emergencies

Everyone in the tannery must be trained on basic rescue procedures and application of basic first aid. However it is necessary for at least two staff members to be trained as certified medical first aid providers. In case of two shifts, one trained first aid provider should be present on each shift. The phone number and contact address of the nearest medical doctor must be displayed prominently, and there should be a firefighting service nearby. There needs to be at least one first medical aid box in the tannery, the location of which is known to workers. For first aid in accidents involving chemicals, the relevant material safety data sheet must be checked. Lastly, the medical doctor or closest hospital must know about the safety risks and health hazards at the tannery or effluent treatment plant.

Management's Responsibility toward the Health, Safety and Wellbeing of Workers

General awareness of occupational health and safety must be created among workers by the management. Before signing their contract, they must be fully informed about the safety risks and health hazards involved in their work and at the workplace. Training on safe behaviour and work practices must be provided, and workers must be supervised effectively, especially if their work involves hazardous machines or chemicals.

Safety and health instructions must be displayed prominently. It is also a good practice to visibly display a safety policy statement or a written commitment from the management towards ensuring the safety and health of workers. The contact addresses and telephone numbers of the nearest doctor, hospital, firefighting service and first aid providers must be prominently displayed on an information board. In larger tanneries, this information must be displayed in all sections.

Warning and precautionary signs must be affixed wherever necessary, and the management must ensure that all workers understand the meaning of the signs. This can be achieved by using



standard pictograms, and any explanatory text must be in the local language or in languages that workers can read and understand.

Each worker at the tannery and effluent treatment plant must undergo general safety orientation, as well as training on existing health hazards and safety risks at their location, safe behaviour and work practices, basic first aid and what to do in emergencies. Regular training on the use of emergency equipment and what to do in case of an emergency should be carried out at least twice a year. Emergency procedure drills must be conducted at intervals.

7. Tannery Workers' Responses on Conditions at their Workplaces in Tamil Nadu

7.1. Tannery 1 (Ranipet, Vellore)

7.1.1. Introduction to Tannery 1

Tannery 1 is the largest of the three tanneries, and is situated within the SIPCOT II industrial area in Ranipet. It has around 2000 workers in all, with 1000 workers working each of two shifts. Leather finishing work is undertaken at the tannery, which involves processes such as polishing, shaving and shining. Both men and women are employed. Men occupy the primary roles, working with chemicals or operating machines, while the women work as helpers engaged in menial tasks. The ratio of men to women is approximately 3:1, which means that 75% of workers at the tannery are male.

Six workers from Tannery 1 were interviewed individually for the purpose of this study. We had hoped to interview an equal number of men and women so as to gain perspective on the experiences of both genders, even though this did not reflect proportional representation within the tannery. However, we found it extremely difficult to reach male workers from Tannery 1. Our main contact with the tannery workers of Ranipet was through a local women's organization called the Women's Collective. The latter helped us arrange interviews with local tannery workers, and male workers from this particular tannery were not very responsive to them. In the end, we met and spoke to five women and one man with the help of Women's Collective.

7.1.2. Profiles of Workers

All six workers interviewed were Hindus from a Scheduled Caste known as Arundhutyar, which has traditionally been engaged in leather work. Four of the women reside in Karadikuppam village, about twenty-five kilometres from Ranipet, while one resides in nearby Govinda Cherrikuppam. Most were born in the area, while one moved to Karadikuppam after marriage. They travel to work in a company bus, which takes about an hour each way. All five work as helpers, but are responsible for different tasks. The sole male worker hails from nearby Arcot district, from where he travels to SIPCOT II every day. His role at the tannery is that of a shaving and splitting machine operator. He is the sole earning member of his family, and has four dependents. The company does not provide a bus for his travel, so he uses his personal motorcycle to get to and from work.

The women workers' ages ranged from 24 to 45 years. The machine operator was in his mid-thirties, like two of the helpers. Of the five, four are married to men engaged in construction work, while one is a widow. While two of the older women have two or three children of school-going age, one has an adult son and daughter, who are working at the Indian Technical Institute (ITI) and as a married homemaker respectively. The two younger women are recently married and do not have children.



Five of the workers have schooling up to a certain level, ranging between the 5th standard and the 10th. This includes the male machine operator. One woman, however, has never been to school.

7.1.3. Overview of Employment

The helpers are engaged in a variety of tasks, such as dyeing and toggling. The latter is a process in which gas is used to make a smaller skin expand from the pressure, after which it is stretched and clipped in order to be pulled out. The machine operator is engaged in shaving the skins, which involves bringing them to the desired thickness using two or three different machines. The machines are also used to achieve a desired shape, and to give the finished leather a shiny look. In the dyeing process, the man in charge of the task puts the leather in dye, and then lifts it out and hands it to the women helpers. The latter then carry the leather outside, squeeze out the liquid, and lay them out to dry. They must ensure that the leather is absolutely flat and that there are no wrinkles before spreading them out. The leather is extremely heavy, and the women said that they find it difficult to carry them and squeeze them out.

The five helpers are engaged at the tannery on a contract basis for a period of one year, under a local contractor named Shankar. They are paid a fortnightly wage once every fifteen days at the rate of INR 140 per day, which does not include Sundays. The first wage is paid on the 20th of every month, while the second wage comes between the 5th and 10th of the next month. On average, they earn around INR 4,000 per month. The wage is not calculated for days taken off for illness or other reasons. The women receive a monthly pay slip with their name, days of work and salary for the month recorded. However, these slips do not bear the name of the company, or of the contractor they are in the employ of. They are given no other document as proof of employment, such as a contract, agreement or appointment letter. No identity cards are provided. After the contract period of one year ends, some may be taken on again on a different contract. Alternatively, new workers may be taken on in place of some whose contracts have ended.

The machine operator is engaged on a temporary basis, and works for a piece rate. The management has asked him to take up a permanent position several times, but he prefers to keep working at a piece rate. He is able to earn more money this way than as a permanent worker, the monthly salary for which would have been only INR 8,000. Working at the piece rate, he earns INR 10,000 per month. Moreover, his temporary position allows him the freedom and flexibility to take leave whenever he requires it, which would have been severely restricted in a permanent job. He does not possess a contract, letter, or other proof of employment. No pay slip is given. The number of pieces he has worked on is recorded in a notebook every month.

None of the helpers receive any of the social security benefits, such as coverage under the Employee State Insurance Scheme (ESI), which is a government healthcare scheme, and the Provident Fund (PF), which is a government run investment fund contributed to by employees and their employers throughout the former's working life. A lump sum consisting of the accumulated amount and interest is provided to each employee at the time of retirement, resignation or death. They are not entitled to gratuity, which is a bonus paid for five years of continued service at a factory, nor are they given any other bonus. This is also the case with the machine operator.

The workers lack any form of professional or technical training. They are trained informally on the job by the Human Resources person, their supervisors and fellow workers, or are self-taught. The machine operator learned his trade at a previous skins company, where he was engaged in an identical role operating a machine that shaves skins.



7.1.4. Conditions at the Workplace

The workers work within a large enclosed hall-like space, which has different sections for different parts of the finishing process. It has good ventilation, with large windows and an abundance of exhaust fans near machinery. Fans are absent in the toggling section. Fire extinguishers are present, as are emergency exits. Noise levels are extremely high. Some of the women complained that this caused severe headaches. The women work in close proximity to chemicals and dyes. A strong smell of chemicals hangs in the air in the section where the machine operator works, which has only machines. The temperature within the enclosed space is the same as outside, with one worker claiming that a chilly breeze from outside often blows in. There is a lot of dust hanging in the air in the section where skins are shaved and stored.

In most cases, the tannery provides rubber gloves and yellow plastic masks for protection, which workers usually do not use. They say that the protective gear is uncomfortable and ill-fitting, especially the heavy masks, which are suffocating and cause wheezing problems in some. The management takes care to ensure that they are wearing the gear only when inspectors, officials and visitors come to the tannery. At all other times, workers either wear ordinary cloth masks or none at all. Sometimes, workers are not given any gloves at all. The machine operator is additionally provided with a cap to protect against the dust from the shaving and a pair of work goggles, both of which he uses while operating the machines. No hearing protection is provided, and neither are protective boots.

The women helpers get a lunch break of half an hour, but the machine operator is given an hour. There is a canteen facility for company management and supervisors, as also for migrant workers. Local workers, however, are not allowed to use this facility. All six said that they carry lunch from home. Workers are served tea during two five to ten minute tea breaks during the course of the workday. The tannery has clean toilets for men and women, with sufficient water and soap to wash their hands with. The toilets are cleaned once or twice a day by a cleaner.

A First Aid box is kept in each section, but there is no nurse or doctor at the tannery. Neither is there an on-site ambulance. In case of an accident, a doctor is summoned from Ranipet. If the accident is serious, an ambulance is called for, and the afflicted workers are taken to a government or private hospital. There are fire extinguishers, but no fire safety or emergency evacuation drill. Some said that there were clearly marked emergency exits in the sections where they worked, but others maintained that there was only one way of entering and exiting the work space. The helpers either stated that there were no safety notices and written safety instructions in their section, or that these existed only in English, which they cannot read. Safety notices and instructions in the local Tamil language are only found in the section where the machine operator works.

Helpers work from 8:30 am to 6 pm. The machine operator works from 6 am to 2 pm or from 2 pm to 10 pm, and does not usually undertake the general shift. Helpers are set a daily target of 350 pieces. This joint target is for a group of workers engaged in a particular task or process. Some find it difficult to meet this target, as the leather is heavy and leads to severe body pain. One suggested that a man should be appointed to do this work because of the excessive weight of the leather.

The women experience verbal harassment from their supervisors when they fail to meet the target, but only subtle pressure is exerted on the machine operator, in the form of a casual statement suggesting that the company may have to look for someone new. One woman suggested that there was physical intimidation, but did not go into further details. Overtime is flexible for women, but men cannot refuse. The machine operator has to do overtime when the daily target is not met, or when another operator does not show up to work. He is paid the double overtime rate when the work is extra, but only the single rate if he is working overtime to meet his target. On average, he does between 8 and 10 hours of overtime every week, for which he is usually compensated at the normal piece rate. This comes to around two hours of overtime every day. He is paid the usual piece rate for working on a Sunday, but permanent workers are paid the double overtime rate when they do the same.

There is no union or Health and Safety Committee. Workers go to supervisors with their complaints, and if these are not resolved, they approach the manager. When this fails, they try to approach the owner. It is extremely difficult to do this, however, as appointments must be taken



through the manager. There is no discrimination on the basis of caste or community at the tannery, but only on the basis of hierarchy.

7.1.5. Health and Safety Concerns of Workers

Workers stand throughout the day as they work, and only find time to sit down during their lunch break. This means that they stand continuously for eight or more hours, with the exception of breaks. If a worker sits down in the middle of work, the supervisor will come and ask for a reason. If they cite minor illness or physical uneasiness, they are given a pill and asked to rest for half an hour or one hour before returning to work. As a result of continuous standing, some workers experience severe leg and body pain, usually in the calves, knees, back, shoulders and thighs. The operator described weakness in the arms and legs, as well as leg cramps. Continuous handling of wet leather leads to headaches and frequent colds.

The workers also variously described a burning sensation in the eyes - especially when they mistakenly touch their faces after contact between the leather and their bare hands, severe headaches, frequent colds and fever, muscle pain, nausea and vomiting from the chemical smell, and a ringing in their ears from the high noise levels, even after they have left the tannery and returned home. Workers are often unable to hear what others around them are saying because of the noise. In the case of helpers, colds and fever are usually the result of standing continuously in water to soak and wash leather. One worker had been down with high fever for a week and a half in the previous month. Another had taken ten days of leave in the previous months because of periodic severe body pain from the heavy lifting. The doctor had assigned painkillers and asked her to rest at home. At one point, she had developed a fever after the body pain set in.

Besides nausea and vomiting, some also experience breathlessness. The operator said that he suffers from itchiness and scratching because of the salt in the wet leather. All workers reported burning and irritation in the eyes, hearing problems from the high noise levels, discomfort or nausea from the strong chemical smell, and general tiredness or fatigue.

One of the younger women, who is in her mid-twenties and has been married for five years, reported problems with her menstrual cycle and trouble conceiving. After joining the tannery, she had conceived once, but had suffered a miscarriage after six months of pregnancy. She ascribes this to the hard labour at the tannery, where she is engaged in lifting, carrying and wringing out heavy leather after it has been soaked in dye. As a result, she had left her job at Tannery 1 a few days before we interviewed her.

The operator reported experiencing tiredness, stress, constant tension and sleeplessness because of the high workload at the tannery and his difficulty in meeting targets.

Neither the helpers nor the machine operator are registered under the Employee State Insurance (ESI) scheme. In case of minor injury during the course of their work, the company provides treatment at a private clinic or hospital on the first day, after which the workers are left to fend for themselves. Since there is no health insurance, workers must pay for their own treatment at private facilities in case of illness, even though this was found to be related to their work.

Some of the workers described an incident involving workers from the factory that had taken place a month or two before the interviews, in which a company van had collided with another vehicle. One woman worker had died in the accident, and several others had been injured. The company provided first aid to those injured on the day of the accident, after which they were left to tend their injuries on their own. According to one worker, no compensation had been given to the deceased worker's family.

7.1.6. Dismissal of North Indian Migrants

The shaving and setting operator revealed that there used to be migrant workers at Tannery 1, who hailed from West Bengal and other north Indian states. These workers had been dismissed



and sent back home after the CETP incident in Ranipet on 31st January 2015, which claimed ten workers' lives. The Bengali workers had been sent back because the West Bengal government had demanded that all workers be provided health insurance of INR 10,000, which the company had been reluctant to accept. However, other tanneries in the area still have north Indian migrants in service.

The migrant workers were accommodated in rooms within the tannery premises, and were not allowed to go out too often. They were often asked to do more overtime work because they stayed on the tannery premises. This was also the case with migrants from other parts of Tamil Nadu.

7.2. Tannery 2 (Ranipet, Vellore)

7.2.1. Introduction to Tannery 2

Tannery 2 is situated in the Ranipet industrial area. It is smaller than Tannery 1, with a little over 250 workers in regular employment, of which 30% are women. Most of the women work as helpers, as in Tannery 1, while the men work as operators. We interviewed two men and one woman from Tannery 2 at Nurcomparai village, which is in the vicinity of Ranipet.

7.2.2. Profiles of Workers

Both men interviewed are married, with two children. Their entire family is dependent on their income. The woman is unmarried, and lives with her brother's family. All three are Christians, and are fairly recent Scheduled Caste converts. They have studied till various standards in high school. While the men work as sewing and setting operators respectively, the woman is a helper in the setting department. All three work on a contract basis. They come to work on the company bus from their village 15 kilometres away from the tannery.

7.2.3. Overview of Employment and Conditions at the Workplace

Men at Tannery 2 usually have a target and a specific task for the day, since they work as operators responsible for the main work in their particular departments. They have a daily target of 350 pieces to meet. The women merely help the operators, as at Tannery 1, and do not have any targets or tasks as individuals. The group target to be completed in a day is usually 1000 pieces. When it is not met, supervisors rebuke workers in front of their colleagues. This sort of harassment takes place continuously when the target is not met several times in a row.

The men said that they do not have a regular supply of work every month. Some weeks they are given work, while in others, there is none. The work load is usually very high in the weeks when it is available. None of the workers interviewed had been given a piece of paper as a contract, or any other document as proof of employment.

Both the sewing operator and the setting operator work in the morning shift, from 5:45 am to 2 pm. The helper works from 8:15 am to 5:30 pm, in the general shift. The men said that they earned INR 120 per day, while the helper earns INR 100-110 per day. They receive their wages once in every fifteen days. Since work is not continuous throughout the month, one man stated that he makes about INR 3500 monthly. None of them receive any benefits, such as the ESI, PF, gratuity and an annual or quarterly bonus. Overtime is compulsory for all three, and depends on the amount of work.

No formal training is given to the workers. Instead, they are trained informally by their supervisor and other workers from their department or section when they join the tannery. They are taught their work on the first day, and begin their employment the next day without proper knowledge of the use of machines. They receive no training at all on health and safety hazards at the workplace and the safeguards that must be adopted. As a result, workers are unaware of the risks involved,



and often neglect to use plastic gloves and cloth masks while handling chemicals as they find these uncomfortable.

Workers are unaware of the names of chemicals that they handle or are in close proximity to. The operators handle sewing and setting machines. All three complained of high temperatures and noise levels in the tannery, which is not divided into separate sections.

There is no first aid box at the tannery, nor any other medical facility. No medicines are kept at hand for workers. The company's safety instructions are displayed in a few places, but these are written in English and workers cannot read or understand them. Fire extinguishers are present in a few places.

Workers complained that the temperature was very high on the shop floor. They stand continuously while working, and the supervisor does not allow them to sit for a minute. However, they find opportunities to sit down without the knowledge of the supervisor. When the target is not achieved, supervisors shout at workers in front of everyone else. This sort of harassment is constant when the target is not completed several times in a row.

Workers are given a lunch break of 30 minutes. The canteen facility on site is open only to supervisors, and they bring their own lunch from home. They are also given two short five minute breaks at 7:30 am and 11:30 am. However, there is no restriction on the number of toilet breaks that they can take. There are separate, clean bathrooms for men and women, which are cleaned once a day. There is sufficient soap and water to allow them to wash their hands properly.

7.2.4. Health and Safety Concerns of Workers

Women working at Tannery 2 experience excessive or foul-smelling white discharge, which is usually indicative of an infection or other problem. Most women are very lean. Some suffer from health problems and complications during pregnancy, or have trouble conceiving. The woman helper we interviewed has been suffering from asthma for over a year. She claims that this is a result of the chemicals present at the tannery. In the last month alone, she has had to take ten days of leave because of her health. She has recently left the job and is receiving treatment for her asthma. The men stated that they succumb to fever frequently and continuously, sometimes as often as once in fifteen days. The general state of their health is poor as a result of work conditions.

There is no ESI coverage or other health insurance and benefits for workers. When they experience a health problem, they must take care of it and finance treatment themselves. The company allows them leave when they are sick, but without any pay. Since their daily rate is not paid when they take leave, there is no restriction on the number of days that they can take off. Once every fifteen days, workers said, they experience fever or severe body pain without fail. They ascribe this to their bad working conditions. Some workers also complain of hearing problems because of high noise levels. Workers suffer from pain in their joints, legs, lower back, back, or shoulders from sitting or standing long hours. Coughing, headaches and eye irritation are other common problems.

There is no union or Health and Safety Committee at the tannery. Workers complain to the supervisor if they have a problem or grievance, which is usually never resolved.

7.3. Tannery 3 (Chrompet, Chennai)

7.3.1. Introduction to Tannery 3

We were able to visit a small tannery in Chennai's Chrompet area, where we interviewed three workers in the absence of the manager and supervisors. We made our visit on a Sunday, when the company management were absent from the shop floor. The tannery employs between 40 and 50 workers in total, all of whom are migrants. No women work at the tannery.



7.3.2. Profiles of Workers

The three men we interviewed hailed from Bihar's Muzaffarpur district. They belong to the Hindu Ram community, which is of the Chamar caste. Chamars are Dalits, and have traditionally been leather workers by profession. All three have families at home in Bihar, who are dependent on the income that they earn in Tamil Nadu. They typically have between five and six dependents at home, including children, wives and in some cases, an elderly parent.

All three of the men interviewed have been in Tamil Nadu for a long time, but some of the other young men working at the tannery have come to Chennai very recently. While one of those interviewed has been working in the state for 12 years, the other two first came to Tamil Nadu 10 years ago and 8 years ago respectively. Two speak a bit of Tamil, while the third said that he was beginning to pick it up. Their native tongue is Hindi. Two of the men work as drum operators, while the third works as a setting operator.

7.3.3. Overview of Employment and Living and Working Conditions

The men work on a contract basis, but there is some permanency associated with their jobs. This is far from formal, and translates only to a certain sense of job security, in the sense that some of the men have worked at the tannery for a decade or more and expect to continue doing so. They do not expect to be removed from their jobs easily. They continue to be paid piece rates, and are not given any benefits such as PF, annual bonus and gratuity. The setting operator is registered under the ESI scheme, but neither of the drum operators is. Those interviewed earn between INR 8000 and INR 10000 per month.

The three men have been provided accommodation by the company within the tannery itself. There are separate rooms where workers can sleep and rest in the large open shed or hall where tanning operations take place, and where machines are kept. This accommodation is provided free of cost. Cleaners come once in a while to clean outside. Their drinking water supply is from the government, and is delivered in tanks. The company provides meals twice a day free of cost. The workers prepare the third meal themselves, or buy it outside the tannery.

The drum operators are required to handle chemicals during the course of their work. They add acid, dye and chrome to the drum for leather processing. The setting operator comes in contact with chemicals which are already in the dyed leather while removing water from them in the setting machine. This process finishes the dyed leather. The factory has told the operators about the hazards of the machinery that they handle, but not about the risks associated with the various chemicals that they come in contact with.

The enclosure where they work is large and open, and shed-like in appearance. The temperature is usually hot, and reflects the temperature outside. There is proper ventilation, and fire extinguishers are placed nearby. Noise levels are not abnormal according to the workers. A chemical smell hangs in the air at all times. The electrical transformer is located outside the shed. Electricity is transmitted at a higher voltage, and needs to be converted to a lower voltage before use. This is done by an electrical transformer, which needs to be located outside in order to prevent accidents, electrical fires, etc.

The setting operator is not provided with gloves, rubber boots, masks, goggles, aprons or any other form of protective equipment. Drum operators are given rubber or plastic gloves, boots/shoes and masks. They usually use the gloves while handling or pouring acid, but not while handling other chemicals. They also use the masks and boots sometimes while handling acid.

Work hours are between 6 am and 6 pm. One worker said that he works from 8 or 9 am until 8 pm. The lunch break is of an hour's duration. Their food is prepared at a canteen facility within the tannery. In addition to the lunch break there are two or three short breaks of five to ten minutes' duration. There are clean toilets with soap and water for washing, which is cleaned once in two days.

The workers told us that there is a first aid or sick room, and a first aid box in the office. However, no nurse or doctor is present at the tannery, but must be called in case of an accident or emergency.



The operators are set a very high target of 2000 pieces per day. Overtime is frequently undertaken to finish the work assigned, but workers do not usually continue beyond 8 pm. Once in a week, there might be higher work pressure and a larger target to be met. In cases when more than 2000 pieces must be completed, the operators find it difficult to achieve the target.

The setting operator and one of the drum operators stated that they work standing upright throughout the day, and are only able to sit down during breaks. The other drum operator said that he is able to sit down sometimes, after the chemicals have been poured into the drum.

In case of complaints or grievances, the workers approach their supervisors, who usually give them verbal assurances but do nothing. The workers said that they face no harassment from the supervisor, and are not discriminated against for being migrants. This may be because there are no local co-workers in the tannery. However, there have been a couple of instances in which they have faced casual hostility outside the tannery from locals.

The workers take leave once a year to go home to Bihar. They usually take a month or a month and a half off to go home.

7.3.4. Health and Safety Concerns of Workers

All three workers first said that they had no health complaints relating to their work. Later, only one of the workers said that he experienced regular headaches and back pain, as well as skin problems from the chemicals he came in contact with. Notably, all workers present were apprehensive of the management finding out that they had been interviewed, and about their identity or that of the tannery being revealed. They asked if they would be jailed if word got around or if the management found out. Under the circumstances, it is safe to assume that they were unwilling to disclose too much information.

In case of any illness, the setting operator goes to the ESI dispensary, and then to a private hospital, since he is not aware of the location of the nearest ESI hospital. The other two men are not registered under ESI, and go to a private clinic or hospital.

8. Ways Forward

Different actors can take steps towards ensuring better accountability in the tanneries of Tamil Nadu. These steps will go a long way in transforming workers' occupational health and safety, and in checking the pollution that occurs practically unhindered in areas where tanneries are situated.

- The state government must take immediate steps to check rampant corruption among officials responsible for overseeing various aspects of industry. The Department of Inspectorate of Factories - which has now been renamed the Directorate of Industrial Safety and Health, the Tamil Nadu Pollution Control Board and the Public Works Department are in charge of monitoring industrial practices in the leather and leather product manufacturing industry. They are directly responsible for ensuring compliance with environmental laws and laws governing health and safety. In Tamil Nadu, the common perception is that officials accept bribes to grant clearances and permits to tanneries that act in violation of the law.
- Many international footwear brands, including European ones, source from factories manufacturing leather footwear and other leather products in Vellore and other districts of Tamil Nadu. These brands have a responsibility to ensure that the leather used in their products is sourced from tanneries that are clean. **They must make it mandatory for their suppliers to buy leather from tanneries that are fully compliant with all aspects of the law, and do not have a history of accidents, pollution and illness among workers.**



- International buyers must ask their suppliers to pressure tanneries supplying leather into abiding by international standards for cleanliness and safety, such as the health and safety guidelines set out by UNIDO and the ILO Leather Panel. This must be a prerequisite for buying locally produced leather.

The national and international media must highlight violations of law in tanneries, so that domestic and international consumers are aware of the conditions under which their leather goods are produced.

9. Conclusion

Leather tanning industries are included in the list of industries involving hazardous processes listed by the **Factories Act, 1948**.²⁴ The tanneries of Tamil Nadu that we studied directly violate and contravene several crucial regulations that industries engaged in hazardous processes are legally required to abide by. Every factory that engages in hazardous processes or where hazardous substances are handled is required to set up a **Safety Committee** consisting of an equal number of representatives from among workers and the management. These committees are supposed to ensure proper safety and health at the workplace, and to periodically review the measures taken in that regard. **Safety Committees of any description are conspicuously missing at the three tanneries.**

The Act also requires the factory to arrange a **medical examination** of every worker before he or she is assigned to a job involving the handling of hazardous substances, or working with the same. **Regular medical examinations are also stipulated at intervals not exceeding twelve months** while the worker continues in such a job, and after he or she has ceased to work in such a job. However, we found that this is never done. No health or medical records of workers exposed to chemical, toxic or other harmful substances are maintained.

Factories with more than 500 workers are required by the law to have an ambulance room presided over by medical and nursing staff. This was conspicuously absent even from Tannery 1, which has 2000 regular workers. Tanneries often provide protective equipment, but do not ensure that workers use them on a regular basis. Factories with more than 250 workers are required to provide and maintain a canteen, but these were not open to local workers at the three tanneries we studied. Piece rate workers are often denied the overtime rates that are due to them.

The tanneries are also violating several major environmental laws governing pollution, including the Water (Prevention and Control of Pollution) Act, 1974²⁵ and the Environment (Protection) Act, 1986²⁶. There is a provision to prevent the use of streams and wells to dispose of polluting matter, such as effluent. **According to this provision, no person can knowingly cause poisonous or polluting matter to enter into any stream or well or sewer or on land directly or indirectly. Neither can any person knowingly cause or allow any matter to enter into a stream, which would impede the proper flow of the water of the stream in a way that would lead to a substantial aggravation of pollution.** We see that this part of the law has been blatantly flouted in Ambur, where the river Palar has been thoroughly contaminated by untreated effluent, and has now actually dried up.

According to the Environment (Protection) Act, 1986, no person carrying on any industry, operation or process can discharge/emit any environmental pollutants in excess of prescribed standards. **Neither can any person handle or cause to be handled any hazardous substance**

²⁴ Factories Act, 1948. As amended by the Factories (Amendment) Act, 1987. Chapter: Schedule. *List of Industries involving hazardous processes.*

²⁵ The Water (Prevention and Control of Pollution) Act, 1974 Chapter: *Prevention and Control of Water Pollution* (<http://www.moef.nic.in/legis/water/wat1c5.html>)

²⁶ The Environment (Protection) Act, 1986. Chapter: *Prevention, Control and Abatement of Environmental Pollution* (<http://envfor.nic.in/legis/env/env1.html>)



except in accordance with established procedure and after complying with prescribed safeguards. We see that the tanneries directly flout these legal provisions.

Where the discharge of any environmental pollutants in excess of the prescribed standards occurs or is likely to occur due to any accident or other unforeseen act or event, the person responsible for it and the person in charge of the place at which it occurs is bound to prevent or mitigate the environmental pollution caused as a result of the discharge. He/she is also required to intimate the fact of such an occurrence or apprehension of the same, and to render all assistance to prescribed authorities or agencies. A prominent violation of this provision can be seen in the Ranipet tanneries CETP incident. In such a scenario, the health of workers largely neglected by factory managements. A number of extremely worrying symptoms and ailments emerged in our study, including regular cases of fever, headaches, body and muscle pain, problems with hearing, nausea, and reproductive health issues in the case of some women workers. The chief areas of concern are the lack of compliance with standards and regulations on handling and storing hazardous substances at the tanneries, and the management's callousness in ensuring that workers regularly use the personal protective equipment that can protect them from exposure to harmful chemicals. Tanneries fail to inform and train workers on the hazards associated with their work, as a result of which workers are ignorant of the dangers of not using PPE. Regular medical examinations are a must in the case of hazardous industries, but these are never carried out among tannery workers in Tamil Nadu. Moreover, pollution in the areas where the tanneries are situated affects the health of entire local communities, as well as the climate, agriculture and natural or geographical features of the region.

The lack of accountability among tannery and CETP managements in the state is largely the result of the callous attitude and corruption rampant among officials and in public bodies responsible for monitoring and regulating industries. The state's attempt to appear industry-friendly has led to a blatant neglect of workers' wellbeing and interests. This can only spell doom for workers and communities, and harm the tanning industry in the long run.



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