

Footwear

A QUARTERLY JOURNAL

chronicle

July - September 2015

CFTI - A pioneer Training Institute in Footwear Technology

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*Hon'ble Union Minister for MSME, Shri KALRAJ MISHRA
graces the Institute by his visit on 17th of September, 2015*

*Wow! what a
"Great moment in the
history of CFTI"*

Hon'ble Minister for MSME, Shri Kairaj Mishra going round the workshop of the Institute and interacting with students and appreciating the Institute's performance





Shri. K. MURALI
Director, CFTI

From the Director's Desk

It is indeed my pleasure and privilege to come closer to you through this news journal. Since this journal is a platform to portray many developmental activities of this Institute, this letter is bridging the gap between you and this Institute. I am able to communicate many developmental issues and am able to receive feedback from you for improving day to day activities of this Institute. Being a pioneer in the Footwear sector training and being a well equipped trainer, our goal is to impart a world class training. We have so far been able to achieve this goal with the help of experienced Co-ordinators and Trainers. Also, we are able to achieve the target fixed by LSSC for TNSDC and PMKVY programmes. In so far as PMKVY programme is concerned during the quarter July - September 2015 a total number of 750 candidates were trained by this Institute and thus achieved the target fixed by LSSC. As far as TNSDC programs are concerned, during the quarter July - September 2015 a total number of 315 candidates were trained and were given placements by various companies, thus successfully completed the target of 2,000 set by LSSC.

I am very happy to inform that Shri. Kalraj Mishra, Hon'ble Minister for MSME, visited this Institute on the 17th of September, 2015 and he was immensely pleased and happy about the environment of this Institute and about the training programmes conducted at this Institute. He went round the workshop area where practical classes were conducted for the students and after interacting with students, he expressed his happiness and entire satisfaction about the facilities extended to students. It was beyond my imagination that even after reaching New Delhi, the Hon'ble Minister has expressed happiness about the overall performance of this Institute through his P.A and even through Development Commissioner's Office. I would like to extend my sincere thanks and appreciation to all the Officers and staff of this Institute for the full support and co-operation.

I would like to share one more happy news with you. Shri. Peter Rocklyeft, Chief Moderator from the Leicester College, Textile Institute, U.K. visited this Institute during the last week of September, 2015. After examining the students and after

supervising the Institute, he was immensely pleased and has expressed his happiness about the improvement of standards of the students and of this Institute as well. Also he has conveyed his appreciation about the tremendous growth of this Institute over the years. I would like to extend my sincere thanks and appreciation to each and every Officer and staff of this Institute for making this possible.

I am also happy and excited to inform you that after seeing the enormous success of the newsletter it has been decided that henceforth the newsletter will be enclosed in the form of a journal with many interesting articles which were also brought out by the Institute about the Footwear Industry and will be brought on quarterly basis.

Special achievements of this Institute

- The growth rate in revenue generation **FY 2014-15 is increased by 209%** in comparison to last year with percentage recovery from 81% to 122 %.
- **A new course launched** in affiliation with The Textile Institute, UK for conducting 1½ year Post graduate Higher Diploma (**PGHD**) in Footwear technology and Management Studies.
- CFTI, Chennai as an **affiliated training partner to LSSC** for NSDC - STAR & PMKVY Scheme project, and completed training for **1995** candidates till 31st March 2015 and **ranked as 2nd** with pass percentage of 94% in the Leather SSC rating.
- CFTI, Chennai being an affiliated training partner by LSSC for conducting Placement Linked Entry level training programme funded by TNSDC, Govt. of Tamilnadu and **completed training for 2000 candidates till Sep 2015.**

ABOUT THIS INSTITUTE



Central Footwear Training Institute is a Government of India Society functioning under the aegis of Ministry of MSME (Micro, Small and Medium Enterprises) as MSME (Technology Development Centre), a pioneer institution rendering services in human resource development for footwear and allied industry imparting various training programmes on Footwear Designing & Manufacturing Technology.

This Institute is the oldest institution in the country which came into existence in July 1957 in the name of Central Footwear Training Centre with the assistance of Ford Foundation engaged in providing trained manpower to the shoe industry. The departmentally run Central Footwear Training Centre was converted into an autonomous institution (A Government of India Society under Ministry of SSI) w.e.f. 1.1.96 for better functional autonomy. The institute has been modernized with UNDP assistance under the "National Leather Development Programme" and is fully equipped with state of the art machinery to impart training in the modern methods of Footwear manufacturing. The affairs of the Society are governed under the Chairmanship of Additional Secretary & Development Commissioner, (MSME), Ministry of Micro, Small & Medium Enterprises, Govt. of India with an

objective of quicker implementation of managerial decisions followed by Governing Council members from Govt. of India, State Government of Tamil Nadu and from the industry.

This institute conducts international level courses like Two Years Diploma Course in "**Footwear Manufacturing & Design**" in collaboration with **Textile Institute, U.K** with approved status and also other long and short term courses.

CFTI, chennai provides Training, Consultancy, Testing & Product development and Common facility services like Patter grading, Shoe CAD, Shoe Designing and PU injection moulding machine.

This institute conducts outreach programmes like SHG through O/o DC (MSME) for SC/ST on Leather Goods making for the entrepreneur development through out different parts of the country. In recent past years, the institute in association with the Footwear Cluster at Salem and Erode under HRD (Support to Artisans) has conducted many other training programmes of HRD (Placement Linked Skill development Training program), Primary Level and HRD (Skill Upgradation Training Program) Secondary Level in various footwear companies.

This institute is affiliated as a Training Partner of NSDC (National Skill Development Corporation) in Leather Sector under Ministry of Finance, Govt. of India through LSSC (Leather Sector Skill Council) a section 25 company of CLE (Council of Leather Exports) and conducted skill development trainings on approved training courses of NSDC for

1993 candidates so far, under the scheme called **National Skill Certification and Monetary Reward Scheme (STAR)**. The core objective of this programme is to encourage skill development for youth by providing monetary awards for successful completion of approved training programmes.

Since this institute is affiliated with Leather Sector Skill Council, it conducts a **“Placement linked skill training program for unemployed Youth”** funded by Tamil Nadu Skill Development Corporation (TNSDC), Govt. of Tamil Nadu to facilitate the unemployed segment to develop the skill solutions with hands on training by Central Footwear Training Institute (CFTI, Chennai) and place them at appropriate demand in the industry as per the requisite skilled manpower needed to

sustain the envisioned growth of the Leather / Footwear, Leather goods and Leather Garments industry and setting a foundation for the country to emerge as a global leader. Approved training courses of TNSDC to our Sector is as follows:

- Stitchers for Footwear, Leather Goods and Garments Manufacturing.
- Cutters for Footwear, Leather Goods and Garments Manufacturing.
- Skivers, Splitters, Folders, Pasting Attachers and Table helpers for Upper Making in Footwear Manufacturing.

CFTI, Chennai completed training for 2,000 candidates successfully and placed around 95% in 38 factories in Tamil Nadu.

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PRIME MINISTER'S KAUSHAL VIKAS YOJANA (PMKVY PROGRAMME)

The National Skill Development Corporation has notified "**Pradhan Mantri Kaushal Vikas Yojna (PMKVY)**" (a Phase II of the STAR Scheme) which aims to skill unemployed youth is the flagship outcome based skill training Scheme of the new Ministry of Skill Development & Entrepreneurship (MSDE).

The objective of the skill certification and reward scheme is to enable and mobilize a large number of Indian youth to take up outcome based skill training and become employable and earn their livelihood.

The training courses of PMKVY is based on the approved QPs (a set of National Occupational Standards) to the Leather Sector is as follows:

- **Stitchers** for Footwear, Leather Goods and Garments Manufacturing.
- **Cutters** for Footwear, Leather Goods and Garments Manufacturing.
- **Pre Assembly Operator** (Splitting, Gimping, Ironing, Marking, Edge coloring, Pasting, Folding & Eyeletting).
- **Skiving Operator.**
- **Lasting Operator.**
- **Moulding Operator.**

Brief Methodology of the implementation of this scheme are:

- a. Training will be provided at identified centres by Training Partners.
- b. The training duration is for one calendar month.
- c. The time slot will be decided by the Industry Employer and Training partner.

- d. The eligibility criteria is minimum 5th standard pass with age limit of about 18 to 35 years, preferably with Unique Identification (UID) i.e. Aadhar card.
- e. If the candidates do not possess Aadhar card, the training partner will take the responsibility to get it done.
- f. A Bank Account will be opened for all successful candidates by Training Partner to distribute the cash reward.
- g. All required data of the student including the UID and bank accounts has to be entered into the SDMS data base.
- h. The Training Partner (CFTI, Chennai) have to enter into a MOU with the factories before commencing training.
- i. The Training Partner (CFTI, Chennai) has to remit the assessment fee (Rs. 1,200 per candidate on behalf of candidate to LSSC immediate after enrolment of the candidates in SDMS Database.
- j. The Training Partner (CFTI, Chennai) will identify the trainers and the Training of Trainers (TOT) will be conducted for adequate competency and standard practices.
- k. Both practical and theoretical classes will be conducted in the ratio of 80:20. A technical Handbook, Training materials and tools will be provided by Training partner to every candidate.
- l. The Training Partner (CFTI) will depute one trainer and one assistant trainer for giving training to each centre.
- m. A Minimum of 85% attendance at training will be ensured by Assessment Agency.

TAMILNADU SKILL DEVELOPMENT CORPORATION (TNSDC) PROGRAMME

This Institute is affiliated with **Leather Sector Skill Council** to conduct a **“Placement linked skill training programme for unemployed Youth”** funded by Tamil Nadu Skill Development Corporation (TNSDC), Govt. of Tamil Nadu to facilitate the unemployed segment to develop the skill solutions with hands on training by Central Footwear Training Institute (CFTI, Chennai) and place them at appropriate demand in the industry as per the requisite skilled manpower needed to sustain the envisioned growth of the leather / Footwear, leather goods and Leather Garments industry and setting a foundation for the country to emerge as a global leader.

Approved training courses of TNSDC to our Sector is as follows:

- **Stitchers** for Footwear, Leather Goods and Garments Manufacturing.
- **Cutters** for Footwear, Leather Goods and Garments Manufacturing.
- **Skivers, Splitters, Folders, Pasting Attachers and Table helpers** for Upper Making in Footwear Manufacturing.

Brief Methodology of the implementation of this scheme is

(a) Training will be provided at identified centres by Training partners.

(b) The training duration of various job role is as follows:

Stitchers - (4 weeks; 26 working days with 8 hours per day)

Cutters - (3 weeks; 18 working days with 8 hours per day)

Skivers, Splitters, Folders, Pasting Attachers & Table helpers - (2 Weeks; 12 working days with 8 hours per day)

- (c) The batch size will be minimum 30 to be maximum of 40.
- (d) The eligibility criteria is minimum 5th standard pass, with age between 18-35, and should be a resident of Tamil Nadu possessing valid Name (ID Proof) and Address proof of unemployed and rural youth as the reservation rules.
- (e) The Training Partner (CFTI, Chennai) have to enter into a MOU with the need based factories to provide placement on each job roles as per the terms and conditions of salary after successful training under first cum first serve basis.
- (f) The Training Partner (CFTI, Chennai) will identify the trainers and the Training of Trainers (TOT) will be conducted for adequate competency and standard practices.
- (g) The Training Partner (CFTI) will depute one trainer with additional assistant if when required for giving training to each centre with the approval and consent from the Authority.
- (h) Both practical and theoretical classes will be conducted in the ratio of 80:20. A technical Handbook, Training materials and tools will be provided by Training Partner to every candidate.
- (i) Training will be provided on Technical skill along with Soft skill, Health & Safety.
- (j) Hands on training on the machines will be provided by the Training partner.
- (k) Each trainee will be assessed by Assessing Body and will finally submit the report.

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| <p>(l) A Minimum of 85% candidates attendance at training should be ensured by Assessment Agency.</p> <p>(m) The final technical assessment report as per the guidelines will be strictly followed by the assessment agency, results to award a certificate for successful completion.</p> | <p>(n) The issue of the certificates after successful completion of training, along with a amount of Rs. 75 per day will be provided for food and conveyance to the candidates.</p> <p>(o) The Training Partner will ensure and assist to have placements for every successful candidate after training.</p> |
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FOOTWEAR

Footwear refers to garments worn on the feet, for fashion, protection against the environment, and adornment. Cultures have different customs regarding footwear which include not using any in some situations.

Socks and other hosiery are typically worn between the feet and other footwear, less often with sandals or flip flops (thongs).

Durable shoes are a relatively recent invention, though many ancient civilizations wore ornamental footwear. Many ancient civilizations saw no need for footwear.

the Romans saw clothing and footwear as signs of power and status in society, and most Romans wore footwear, while slaves and peasants remained barefoot. The Middle Ages saw the rise of high-heeled shoes, also associated with power, and the



desire to look larger than life, and artwork from that period often depicts bare feet as a symbol of poverty. Bare feet are also seen as a sign of humility and respect, and adherents of many religions worship or mourn while barefoot, or remove their shoes as a sign of respect towards someone of higher standing.

Footwear is sometimes the subject of sexual fetishism, such as shoe fetishism or boot fetishism.

In some cultures, people remove their shoes before entering a home. Some religious communities require people to remove shoes before they enter holy buildings, such as temples.

Practitioners of the craft of shoemaking are called shoemakers, cobblers, or cordwainer

“WHO CAN PUT AN END TO CORRUPTION?”

Imagine a world where love rules and not money. Imagine a world where peace exists and not enmity. Imagine a world where people do not stab at your back. Well all we can do now is just imagine.

Money is a common word among common man. Money is no longer the seed to a fruitful life. It is the key to corruption!!! Money is what all want but not all have. There are various reasons why money has turned out to be such a weapon against good economy.

Firstly, the human mind has been held hostage by greed. People never get satisfied with what they have. They keep wanting more, whether they deserve it or not they all crave for money. Bribing is the biggest bane of the Indian society. It is practiced by rich and poor, exalted and lay. Such is a universality!!! People and must be blamed equally for such unlawful acts.

Why is this? Is it because they have an everlasting thirst for money? Or it is because they do not get enough recognition and reward for their work? Or is it in this way that government money is transferred to individuals? Is it due to Controversies and confusions among politicians and the political parties in solving the issue of corruption? Or is due to people's greed to make quick money? the answer for all these queries is in our own hands!!! Decide yourself!!!

We have seen many patriots in the past who have brought us freedom. But are we really free? No, even after Independence we are all prisoners of our own greed, immoralities and inhibitions!!! We must never fail in our duties only they can we question those who do fail. Only then we can bring about a big change.

NEWS PAPERS - WINDOWS TO THE WORLD

“A good newspaper, I suppose is a nation talking to itself” - Arthur Miller.

“I fear three newspapers, more than a hundred thousand bayonets” - Napoleon.

News play an important role in daily chores of our life. News can be from any fields - sports, politics etc. Every state and country have their own news channel providing them latest and breaking news about their country or world. Out of all media, newspapers are the earliest and the oldest ones. As the name suggests newspapers are a source of news and information. They are also a medium of communication among the people of the world.

Origin of newspaper

Newspaper was first found in Europe in the mid 17th Century. At first the newspaper was in a single sheet of paper called a broad sheet. Newspaper today and those of the past, resemble each other but still their content have changed a lot over time. Newspaper in different societies are often quite different from those you may be

familiar with. Thus it is important to read newspaper from different times and places carefully.

Benefits of reading newspaper:

People all over the world like businessman, politicians, sports persons and even unemployed youth are benefitted and get information through newspapers. It widens knowledge, keeps known about all advances made in the fields of science, education, medicine and technology.

Newspaper is an important pillar in a democratic country. It not only keeps people aware of the views and policies of the government, but also of their rights. It keeps the government informed of people's wishes, desires and aspirations. It bridges the gap between a common man and the rulers.

Life without newspaper is very difficult to imagine. It brings us news and views from all corners of the earth. Therefore, newspapers are certainly the windows of the world.

NANOTECHNOLOGY IN FOOTWEAR

Nanotechnology is a most promising field for generating new applications in footwear industry. However, only few nanoproducts are currently in use by footwear industry. A most prominent nano product is nanosilver. Nanosilver particles are generally smaller than 100 nm and contain 20-15,000 silver atoms. At nanoscale, silver exhibits remarkably unusual physical, chemical and biological properties. Due to its strong antibacterial activity, nanosilver coatings are used on various textiles (organic or inorganic) as well as coatings on certain implants. Further, nanosilver is used for treatment of wounds and burns on or as contraceptive and marketed as a water disinfectant and room spray. Thus, use of nanosilver is becoming widespread in footwear and related applications due to increasing exposure toxicological and environmental issues need to be raised.

The term "Nanosilver" refers to microscopic "nanoparticles" of silver (they're only a few ten-thousandths of the diameter of a human hair), which over recent years have been used increasingly in odor-destroying products including air fresheners, food storage containers, shoe liners and even washing machines. Nano Silver is high efficacious and got the power to produce an intended effective Silver Nanoparticles are nanoparticles of silver i.e. silver particles of between 1 nm and 100 nm in size. Uniform silver nano particles can be obtained through the reduction of silver ions by ethanol at a temperature of 80°C to 100°C under atmospheric conditions.

Excessive bacterial growth in the waste from footwear industries (leather industries) is the main and common problem faced. Many such surfaces promote the growth of microbes. Just a few bacteria are sufficient to initiate the formation of a biofilm(a thin but robust

layer of mucilage adhering to a solid surface and containing a community of bacteria and other microorganisms). Inside the biofilm microbes are protected against immune defense and antibiotic treatment. This creates a hazardous condition in the environment. The exponential growth of bacteria leads to a noticeable excretion of metabolic products and smelly substances like Hydrogen Sulphide (H₂S), Methanethiol (CH₄S) Methyl isoborneol, Butyric Acid. Growth of bacteria and biofilm creation has to be avoided by extensive cleaning and hygiene procedures. Here comes the application of nanosilver: bacteria's thrive in the damp surfaces and where bacteria thrive, odor thrives too. When Nano Silvers comes in contact with bacterial and fungi, they adversely affect cellular metabolism and inhibit cell growth and they finally kill them to almost 100%. Apart from preventing the initial adhesion of biofilm forming microbes, it inhibits proliferation of pathogenic germs on the relevant surface adding of an antimicrobial agent to the material either directly during manufacturing or with a special coating procedure.

Footwear industry is benefitted a lot due to the peculiar properties of nanosilver. Odor-free footwears are healthier and so much more pleasant to wear. Antifungal, Antibacterial and Antimicrobial properties of nanosilver can be utilized to our footwears. This is no doubt that it is safe on our skin. It does not cause allergic reactions and contains no harmful material for the human body. The disposal of nanosilver contained materials to the environment also will not create any hazards due to its antimicrobial function. This environmentally - friendly fibre causes no water pollution, for the antimicrobial substance rarely dissolves in water when dyed or washed. Considering

its lasting and durable function, since the anti-microbial substance is mixed into the polymer, its function is durable throughout the lifetime of the footwear retaining all the physical properties required for the particular component.

Nano silver application in footwear parts / components is becoming widespread nowadays. A good quality shoe insole is necessary for the health of feet. Experts are making the best functional insole using Nanosilver with the basis of well-balanced management in health and function. The product is essential for the health of foot and the elimination of foot smell, as it keeps the shoe pleasant and dried, by absorbing the shock on knee in walking and injecting fresh air of 35cc between toes where foot smell and athlete's foot lies. Shoe lining are also a part of comfort wear if made of special materials, even though its main purpose is to cover the inside seams of a shoe. It also gives comfort features such as additional padding, or the ability of pull moisture away from the foot. If nanosilver embedded yarn can be used for preparing shoe linings, it can give an improved comfort as well as antimicrobial function while sweating.

The homogenous particles distribution of the nanosilver makes it easy to use / handle / to incorporate into other materials. It is free of any fillers. It is easily processable and stable even at high temperatures (>300°C). Smart production process is one of the cheapest silver additives on the market, i.e. it is very economic to use. Less than 1 g nanosilver per kg material (0.1%) is sufficient for a high antimicrobial efficacy. Nano materials have an enhanced sustainability with the ecology because of its peculiarity - silver replaces organic chlorine-containing biocides (a poisonous substance, especially a pesticide). The comparable effectiveness of nanosilver

will significantly decrease material input. It helps to lower the amounts of Silver to be mined, transported, manufactured, consumed and recycled as a whole nanotechnology helps to conserve our present resources.

Nanosilver can be incorporated in different forms into the footwear components. Liquid Nanosilver is having the particle size of 5 nm and is totally miscible in water. It can be used as an additive in any water based coatings. It is orange - brown in colour and is practically odorless. footwear insole can be coated with these kinds of coatings for production of safe and odorless soles. These nanosilver particles can also be embedded in the insole using provided technology to get antimicrobial and antibacterial properties. In order to get antimicrobial property in various footwear industry products, nanosilver is incorporated in the development of mono and multifilament fibers. It can also be used as an additive in the material for the side walls (lining) of footwear's. By incorporating it into the shoe upper component, it is possible for your shoe fiber to be durable and anti-equip all. Nanosilver helps to clean the bacterial polyimide 6 by merely spinning. This is another polymer which can be used for manufacturing technical fabrics for footwear. Nanosilver embedded yarns can be directly used for making shoe lining fabrics.

- By *Shreeshma, CFTI*

Footwear Chronicle

VIPs visit



Shri. Linga Muthu, MLA visited the PMKVY Training Programme at Government Thirumagal Mills College, Gudiyattam on 20th August, 2015



Mohd Saqhi, Ex Vellore MP visited CFTI on 17th Sep 2015



Footwear Chronicle

Experts visit to CFTI

Shri Habeeb Hussain
Chairman LSSC &
MD AV Thomas Group
visited CFTI on 17th July 2015



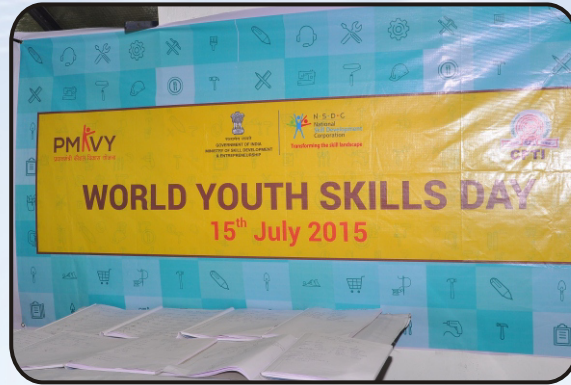
Shri Venkatesan, Ex President, SARA Suole Pvt Ltd visited on 10th August 2015

CFTI Ambur Centre



Footwear Chronicle

World Youth Skills Day - PMKVY



World Youth Skills Day - TNSDC



Footwear Chronicle



Die Less Cutting

*Latest machineries
at CFTI campus,
Chennai*



Physical Testing Lab



PU Pouring Machine



Splitting Machine



Travelling Head Cutting Machine

Restricted substances in leather and leather products

Regulations and leather industry

The tanning industry uses large number of natural and synthetic chemicals to convert the raw hide and skin to leather. The tanneries need to comply with rapidly increasing regulations and specifications which restrict the use of many chemical substances considered to be hazardous or toxic. There are about 250 substances listed under the restricted category including hexavalent chromium, free formaldehyde, arylamines, chloro phenols and nonyl phenol ethoxylates. Presence of these restricted substances in leather is presumed to pose a serious health risk to the consumer and hence leather containing any of these compounds is considered as unsafe for use. The tanneries face the problem of discharge of pollutants in effluent on one hand and presence of objectionable chemicals in the finished leathers and leather products on the other hand. In the past twenty years, many new quality specifications for leather have come into force. Many importing countries have instituted stringent stipulations for the permissible levels of chemicals in leather and leather products. The German government imposed a ban on the trade of leather and leather products containing more than 3 ppm of Cr (VI). These restrictions have badly affected the Indian leather industry. Therefore the concentration of these chemicals is monitored in many countries through quality specifications. However when improving the performance of unique leather properties such as water vapour absorption and permeability, ductility or ability to deform under tensile stress, for footwear, its elegance and durability for upholstery leather, and softness and elegance for garments and leather goods requires speciality chemicals. The leather industry turn to work towards the

continuous improvement of the leather value chain through banned of restricted substances.

Formation of Hexavalent Chromium in Leather

The leather auxiliaries such as neutralization chemicals, retanning agents, wetting agents, syntans, dyes, fat liquors, binders and finishes are employed to impart contaminations in Cr (III) tanning agent, certain class of metal complex dyes and inorganic pigments based on lead chromate (Graf 2000, Cory 2001, Saddington 1999). Apart from direct sources, many tools, substances, auxiliaries, chemicals and process parameters could contribute significantly for the conversion of trivalent chromium into hexavalent chromium (Rezic & Zeiner 2009, Hauber et al 1999, Rydin 2002, Babu et al 2005b, Font et al 1998).

REACH for leather industry

REACH stands for Regulation for Registration, Evaluation, Authorisation and Restriction of Chemicals. The REACH Regulation entered into force on 1st June 2007 to streamline and improve the former legislative framework for chemicals of the European Union (EU).

The REACH Regulation calls for the progressive substitution of the most dangerous chemicals when suitable alternatives have been identified. A candidate list of Substance of Very High Concern (SVHCs) and immediate obligations at 28 October 2008 has been published. A major impact of REACH for retailers, suppliers, tanners and chemical companies is that from 28 October 2008 suppliers of articles with SVHCs present above 0.1% w/w must provide sufficient information to ensure safe use to their customers. This information must ensure safe use of the article and as a minimum,

include the name of the substance. Additional obligations came into force for importers of articles from 1st June, 2011.

Conclusion

Leather made with state of the art technology and chemicals is a very safe product. It is possible to manufacture leathers that comply with the most stringent requirements as to restricted substances and no health risks can be

associated with such leather, which is formed from a natural product. Anti-oxidants can be used in appropriate process of leather processing to prevent the formation of Cr (VI) in leather. This requires the manufacturers take care to select the appropriate processing chemicals and apply them correctly.

- By Ms. Devikavathi, CFTI

ADVANCED TECHNOLOGY IN FOOTWEAR INDUSTRY

The latest technology development in footwear manufacturing is laser scanned foot which is then used to develop footwear last when in the basic mould upon which the footwear is manufacturing, taking the last as the basic of footwear manufacturing. The foot is given extra allowances and reduction at some area and the last is designed as the requirement of the diabetic or orthopaedic foot problems. For example if a patient is at America and needs an orthopaedic footwear, the patient's foot is scanned at America and the foot captured image with the help of laser in the scanner is uploaded to a server from America, if the manufacturer is in India. The foot captured image from America is downloaded from the server which is the common storage space for the foot image. The operator in India download the 3 dimensional foot image from the common

server and it is stored in the last designing software as per the doctor's foot prescription. The last file is transferred from the last making software to the CNC machine which is otherwise known as lathe. The last file can be uploaded to the CNC machine either with pen drive, LAN connection or floppy. The driller in the CNC machine carves out a block of plastic to an end last which is designed by the last designer in the software. Now we have got the last. After getting the last, designing and pattern making is done. The footwear production can be started according to the doctor's prescription, for example for a flat foot person arch is incorporated into the insole of the footwear. Once the footwear is ready, it can be shipped to the customer. The distance is no more a problem nowadays for custom made footwear.

- By Thameem Ansari, CFTI

Imports hit footwear cos. hard

Domestic producers of footwear components appear to be at the receiving end when competing with cheaper imports. Which is why, they are blaming the government for allowing footwear exporters to import such products at zero custom duty upto 3% of freight on board (FOB) value of their exports. Footwear components listed as duty-free products under the duty-free import scheme (DFIS), include poly-etherine and thermo-plastic rubbers soles, in-soles sheets...

Budget 2015: Footwear industry says duty cut to help competitiveness

The Budget proposal to reduce the excise duty on footwear with leather uppers and having retail price of over Rs. 1,000 has been welcomed by the industry, saying the move will help increase competitiveness. "The footwear industry is particularly bullish as for shoes having MRP of above Rs. 1,000 per pair will now attract half the excise duty by halving the duty from 12 to 6 per cent," Liberty Footwear Chief Executive Adesh Gupta said. The move...

THERAPEUTIC FOOTWEAR IN DIABETES THE GOOD, THE BAD, AND THE UGLY?

In recent years, it has generally been accepted by the diabetes community that "good" footwear prevents foot ulceration. Indeed, it is virtually an axiom of diabetes care that a patient with a history of foot ulcer is a footwear patient for life (1). Similarly, most health care professionals believe that "bad" footwear is a major cause of ulceration in diabetes and that in the past, the fact that most therapeutic footwear was perceived as "ugly" resulted in poor compliance when such footwear was prescribed (2). Where is the evidence to support these beliefs? The last two points are easier dealt with than the first.

There are studies that support the belief that bad or inappropriate footwear causes ulceration. Apelqvist et al. (3) identified shoes as the precipitating cause in the majority of toe ulcers and a significant minority of lesions elsewhere on the foot. In another European study (4), footwear was implicated as being contributory to 21% of all ulcers in a large series.

As we identified in an editorial (5) on the same subject 3 years ago, compliance with regular wearing of the footwear is a major problem. In our U.K. center, when provided with therapeutic footwear free of charge, only 22% of patients admitted that they regularly wore the shoes (2). Similar problems have been reported in the U.S. (6).

It is unclear whether a patient's perception of such footwear as being "ugly" or cosmetically unattractive is a major contributory factor to this nonadherence behavior. Another factor may be the patient's belief that the home environment is safe; in a study using continuous activity monitoring, Armstrong et al. (7) reported that "high-risk" patients were much less likely to wear their prescribed

footwear when at home than when outside. As such patients are more active when in the home (7), this nonadherence may well be important in the causation of ulcers. The same authors (8) recently confirmed that even patients with active foot ulcers do not regularly wear removable cast walkers when advised to do so.

In the current issue of *Diabetes Care*, Maciejewski et al. (9) attempt to answer the first point in a structured literature review; that is, can therapeutic footwear prevent the occurrence of ulceration? As no studies have assessed footwear in the primary prevention of ulcers (1), Maciejewski et al. review those reports on the prevention of ulcer recurrence. They identified nine studies from a Medline search and determined that in six of them, footwear was a primary intervention, and in three, it was part of a multifactorial intervention. Each study was rated according to the study design and internal consistency. They conclude in this review that although protective benefit was found, a number of these studies may have been influenced by design issues.

It is perhaps a little unfortunate that the only study that was assigned a study design rating of 1 was by the same authors as those who conducted the review (10). However, having reviewed all of the works, we would entirely agree that the study of Reiber et al. (10) was carefully and appropriately designed and thus warranted a level 1 rating. This study could find no benefits of therapeutic footwear over the patients' own shoes. In an exchange of correspondence in the literature following the publication of this trial (11-13), surprise was expressed that >40% of patients with an ulcer history had normal peripheral sensation. Moreover,

the definition of an ulcer as a lesion that did not heal within 30 days was also a point of discussion. In their reply, Reiber et al. (13) reported that a subset analysis of those patients with sensory loss similarly showed no benefit of therapeutic shoes.

Where does this discussion position us with regard to specialist footwear in 2004? Some years ago, Janisse (14) reviewed "the art and science of footwear design"-at that time it was more art than science. More than 10 years later, the words of Jeffcoate and Harding (15) suggest that little has changed when they concluded about diabetic foot care in general that "clinical practice is based more on opinion than scientific fact."

There can be little doubt that there is an urgent need for well-designed studies

of footwear in both the primary as well as the secondary prevention of neuropathic foot ulceration. Evidence from the literature as reviewed briefly above and by Maciejewski et al. (9) in this issue remains equivocal. Surely, in the 21st century we should be moving toward computer-aided design and manufacture of footwear. In addition, as recently demonstrated (7,8), modern technology now permits the accurate assessment of compliance with footwear provision, which could potentially remove another confounding variable in such studies.

Whereas bad shoes cause ulcers and "ugly" shoes are likely to remain in the closet, a major effort is required to demonstrate that good shoes do actually benefit our high-risk patients.

Varieties of Footwear

Types of Boots

- Chukka boots
- Combat boots
- Fashion boots
- Go-go boots
- Hiking boots
- Kinky boots
- Motorcycle boots
- Mukluk
- Platform boots
- Riding boots
- Russian boots
- Derby boots
- Thigh-length boots
- Ugg boots
- Valenki
- Veldskoen
- Waders
- Wellington boots
- Winklepicker

Indoor Footwear

- Slippers
- Socks

Specific Footwear

- Ballet shoes
- High-heeled footwear
- Climbing shoes
- Clogs
- Football boots
- Sabaton
- Safety footwear
- Ski boots
- Snowshoes
- Surgical shoe
- Pointe shoes
- Swimfins (flippers)

A STUDY ABOUT INDIAN FOOTWEAR INDUSTRY

Abstract: Footwear is the product to protect human feet from effects of all biological damages. Many companies use to concentrate different segment like men's-wear, women's-wear and children's-wear separately. Footwear industry has been giving considerable amount of employment to the nation especially weaker sections and minority sections of society in India. Population growth, exports, domestic markets are the factors of expansion of footwear industry and creation of employment opportunities in this sector. This case study reveals the production capacities, structure of industry, exports growth, global imports, per capita consumption and estimates of Human Resources future requirements in footwear industry in India.

Keywords: Indian Footwear Industry, HRD in Indian Footwear Industry, HRD for footwear, Footwear Industry, Shoe Industry, Per Capita Consumption of footwear in India, Production Capacities in Footwear Industry

I. INTRODUCTION

Footwear is the product to protect human feet from effects of all biological damages. Footwear industry is age old traditional industry in India and it has been changed structurally into different segments like casual-wears, dress-wears and sportswear. New segment is emerging for medical purposes as medical-wear like diabetic footwear. Many companies use to concentrate different segment like men's-wear, women's-wear and children's-wear separately. Footwear industry has been giving considerable amount of employment to the nation especially weaker sections and minority sections of society in India. Population growth, exports, domestic markets are the factors of expansion of footwear industry and creation of employment opportunities in this sector. This case study reveals the production capacities, structure of industry, exports growth, global imports, per capita consumption and estimates of future requirements of human resources in footwear industry in India.

CONCENTRATION OF FOOTWEAR INDUSTRY IN INDIA: The major production of footwear manufacturing concentrated in these centers.

- Tamil Nadu - Chennai, Ambur, Ranipet, Vaniyambadi, Trichy, Dindigul
- Maharashtra - Mumbai
- West Bengal - Kolkata
- Uttar Pradesh - Kanpur, Agra & Noida
- Punjab, Jalandhar, Ludhiana
- Karnataka - Bangalore
- Andhra Pradesh - Hyderabad
- Haryana - Ambala, Gurgaon, Panchkula and Karnal
- Delhi and Surroundings

MICRO, SMALL & MEDIUM ENTERPRISES IN INDIAN FOOTWEAR SECTOR

According to Micro, Small & Medium Enterprises, Government of India estimates that there are 20463 units registered as working enterprises, with employment of 97,741 people, with the networth of Rs. 3993.99 crores in micro, small & medium enterprises in India. These units are having Rs.737.17 crores in Plant and Machinery investment and Rs.2324,94 crores in fixed assets and Gross output of Rs.6008.77 crores. All these units are manufacturing all kinds of footwear like leather, non-leather and other types of footwear. These units had the 1.31 percentage in the total Indian units of 1563974 (100%) in micro, small & medium enterprises in India.[1]

Table No. 1: Footwear Manufacturing Sector in Micro, Small & Medium Enterprises¹

Micro, Small & Medium Enterprises	Number of working Enterprises	% Share
Manufacture of Footwear	20,463	1.31
All India (All Segments)	15,63,974	100.00

PRODUCTION CAPACITIES OF INDIAN LEATHER INDUSTRY: As per Council for Leather Exports, Chennai estimates, India produces 2065 million pairs of different categories of footwear (leather footwear - 909 million pairs, leather shoe uppers - 100 million pairs and non-leather footwear - 1056 million pairs). India exports about 115 million pairs. Thus, nearly 95% of its production goes to meet its own domestic demand.[2]

Table No. 2: Production Capacities in Indian Leather Industry

Product	Capacity
Footwear and Footwear Components	909 million pairs
Leather Shoe Uppers	100 million pairs
Non-leather footwear	1056 million pairs
Total	2065 million pairs

Leather shoes and uppers are manufactured in medium to large-scale units and the sandals and chappals are manufactured in the household and cottage sector. The industry is poised for adopting the modern and state-of-the-art technology to suit the exacting international requirements and standards. India produces more of gent's footwear while the world's major production is in ladies footwear. In the case of chapels and sandals, use of non-leather material is prevalent in the domestic market.

PER CAPITA CONSUMPTION

Some estimates available for population growth and per capita footwear consumption and there is a significant rise from 1.65 in 2008 to 1.87 in 2011 and again to 2.19 in 2013.[3]

Table No. 3 INDIAN FOOTWEAR - PER CAPITA CONSUMPTION

YEAR	Pairs (in millions)	Population (in millions)	Per Capita Consumption (in Pairs)
2004	1100		
2005	1204		
2006	1299		
2007	1412		
2008	1532	930	1.65
2009 Provisional	1800		
2010 Provsional	2060		
2011 Estimates	2245	1200	1.87
2012 Estimates	2470		
2013 Estimates	2742	1250	2.19

FOOTWEAR PRICING SEGMENTS

- Mass Market – Target price of Rs.185-700 is dominated by Bata and Liberty
- Economy Market - Target price of Rs.700-1000 is dominated again by Bata and Liberty
- Sports Market - Target price of Rs.1000-3000 is dominated by international brands Nike, Adidas
- Premium Leather Market - Target price of Rs.3000-5000 is dominated by different brands
- Luxury Market - Target price of Rs. 10,000 – 50,000 is dominated by GUCCI, Louis Vuitton, etc.

II. PROBLEM STATEMENT

Indian footwear industry is providing employment opportunities to India. Basically this industry is labour intensive since it is regular consumable item for everybody. Based on the present employment, domestic markets, export growth, there is a need to look into this industry for creation of more employment opportunities to the nation. Industry, Government, Educational Institutions, Industry Associations would look into further investments in the industry and also HRD requirements for future years. Thus Estimates of HRD are required to give an idea for overall development of Industry.

III. RESEARCH METHODOLOGY

This study is in terms of purpose is an applied and is type of descriptive- analytical and in terms of data collection is library method and data gathering tools in this study is through website, internet. Analysis on exports growth, global markets, present employment, employment required per unit and further estimates on the growth of exports and domestic markets.

EXPORTS FROM INDIAN FOOTWEAR INDUSTRY AND GROWTH

Table No. 4 EXPORTS FROM INDIAN FOOTWEAR INDUSTRY DIFFERENT SEGMENTS (2011 12 & 2012 13 AND 2013 Latest)

CATEGORY	(Value in Million US\$)					
	APR-MAR 2011-12	APR-MAR 2012-13	% VARIATION	APR-SEP 2012	APR-SEP 2013	% VARIATION
LEATHER FOOTWEAR	1717.24	1684.22	-1.92%	840.12	956.00	13.79%
FOOTWEAR COMPONENTS	281.94	245.04	-13.09%	124.04	160.64	29.50%
NON-LEATHER FOOTWEAR	79.96	126.67	58.42%	53.11	88.69	67.01%
TOTAL	2079.14	2055.93	-1.12%	1017.27	1205.33	18.49%

MAJOR EXPORT MARKETS - During 2011-12, the main markets for Indian Footwear are UK with a share of 17.35%, Germany 17.03%, Italy 10.58%, USA 8.81%, France 7.67%, Spain 5.48%, Netherlands 4.90%, Portugal 1.38%, U.A.E 2.99% and Denmark 1.17%. These 10 countries together accounts for nearly 80% share in India's total footwear export. Nearly 90% of India's export of footwear goes to European Countries and the USA. Future growth of Indian footwear in India will continue to be market driven. The European countries and the US are major consumers for the Indian footwear. [4]

Table No.5 - INDIAN FOOTWEAR INDUSTRY EXPORT MARKETS

(Value in Million \$)								
Country	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	% Share
Germany	170.97	217.23	246.84	229.65	224.3	286.7	353.77	17.03%
UK	195.78	208.2	241.37	247.06	296.45	339.65	360.48	17.35%
Italy	134.35	186.11	229.81	221.09	210	219.72	219.79	10.58%
USA	131.07	127.15	136.92	163.03	123.6	143.02	183.1	8.81%
France	74.48	99.81	116.03	119.2	144.56	154.95	159.27	7.67%
Spain	63.7	64.57	76.69	91.86	95.94	112.05	113.85	5.48%
Netherlands	32.96	48.57	72.91	76.2	65.13	6.19	101.72	4.90%
Portugal	22.15	35.03	37.34	28.21	22.63	25.69	28.77	1.38%
UAE	25.78	34.64	39.23	39.4	39.45	41.82	62.06	2.99%
Denmark	18.37	14.65	17.48	14.78	17.01	16.55	24.3	1.17%
Australia	11.58	10.11	12.52	13.34	15.5	12.82	15.59	0.75%
Sweden	6.77	7.99	12.04	12.64	12.2	12.07	14.08	0.68%
Canada	11.95	10.91	10.41	8.96	9.3	10.56	15.01	0.72%
South Africa	8.26	12.11	8.52	8.49	9.87	11.33	14.75	0.71%
Japan	3.17	3.07	4.63	8.23	5.45	7.51	14.63	0.70%
Others	133.9	156.76	226.61	252.18	216.2	358.04	396.10	19.07%
Total	1045.24	1236.91	1489.35	1534.32	1507.59	1758.67	2077.27	100.00%

GLOBAL SCENERIO OF FOOTWEAR INDUSTRY - IMPORTS

Footwear Imports - Global Trend:[5]

Below Tables shows that Russia, The Netherlands, Germany, Japan, Spain, Canada has considerable growth in their imports but Hong Kong, Belgium has little negative growth in their imports. In dollar terms, difference in imports for five years has given and difference is more in USA than Russia even though growth rate is higher in Russia than USA.

Table No. 6 - Major Importing Countries of Footwear (Leather and Non-Leather) (Value in Million US\$)

Country	2007	2011	Diffrence	% Growth
USA	20039.13	23245.06	3205.93	16.00
Germany	5966.99	8527.62	2560.63	42.91
France	5473.04	6538.01	1064.97	19.46
UK	5281.55	5886.75	605.2	11.46
Italy	4529.77	5661.77	1132	24.99
Japan	3750.04	5062.13	1312.09	34.99
Hong Kong	4881.67	4850.30	-31.37	-0.64
Russia	2067.82	3935.95	1868.13	90.34
Netherlands	2297.95	3716.65	1418.7	61.74
Spain	2388.74	3114.08	725.34	30.36
Belgium	2543.04	2427.09	-115.95	-4.56
Canada	1677.05	2089.43	412.38	24.59

IV. MANAGEMENT OF HUMAN RESOURCES REQUIREMENTS FOR INDIAN FOOTWEAR INDUSTRY

EMPLOYMENT - The footwear industry is an employment intensive sector, providing jobs nearly about 1.10 million people, mostly from the weaker and minority sections of the society in which women employment is predominantly more in comparison with other industries. Nearly semi skilled and skilled manpower contributed about 50% share in its

workforce. Many estimates are available on workforce on leather industry, but experts in the industry accepted the following figures in the Twelfth Five Year Plan period 2012-17. The estimated employment in different sectors of leather industry is as follows:

Table No. 7 - **Employment in Various Segments in Footwear Industry**

Industry segment	Workforce (All over India) in million	Percentage of Total
Footwear & Footwear components (organised)	0.20	8%
Footwear & Footwear components (cottage, house hold, and rural artisans in unorganised sector)	0.90	36%
Total Indian Leather and leather product Industries	2.50	100%

Employment Required Per Unit - Estimates are available and persons required for 1000 pairs per day in footwear factory for full shoe unit and shoe upper unit separately. Different categories are required for the manufacturing of full shoe or shoe upper in a footwear unit.

Table No. 8 - **EMPLOYMENT PER UNIT IN FOOTWEAR INDUSTRY (1000 Pairs per Day)**

Category	Closed Shoes	Shoe Uppers
Production Manager	2	2
Supervisor	20	20
Shop floor Workers	200	200
Machine Operators	50	--
Machine Maintenance Personnel	10	--
Designer Pattern Makers	5	2

Table No. 9 - **Distribution of human resource across various functions in footwear industry**

Function	Percentage of People
Manufacturing/Production	80-85%
Designing & Sampling	2-3%
Sales	3-5%
Finance, HR, Administration, etc	10-15%
Total	100%

EDUCATION AND TRAINING

Established institutions are offering many courses for footwear industry. Central Leather Research Institute, Chennai is offering certificate, diploma, B.Tech, M.Tech and Ph.D courses for footwear industry. Footwear Design & Development Institute is offering many designing courses and Central Footwear Training Institutes are offering courses for manufacture of footwear. Nearly 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.

Table No.10- Distribution of human resource by education level in manufacture of leather products

Education Level	Percentage of People	Role in the organization
CA/MBA	1-2%	Management, Marketing, Accounts, Planning
Other Graduates	3-5%	Assistants in various departments, rising up to Department Head level overtime with experience
Engineers	1-2%	Marketing, Merchandising, Product Development and Engineering, Designing & Sampling, Production Planning
Diploma or Equivalent Certification	2-3%	Production supervisors, Maintenance supervisor, Store manager
Other Vocational Courses	1-2%	Line in-charge, Machine Maintenance
Class 12th/10 th & Below	85-90%	Operators, assistants, helpers
Total	100%	

HRD FUTURE REQUIREMENTS

Based on the export target set by the Government of India, structure and expansion of industry and its production capacities, a study has been conducted for human resource and skill requirements in leather and leather goods industry by National Skills Development Corporation, New Delhi (NSDC). NSDC engaged IMaCS (ICRAManagement Consulting Services Limited) to prepare the report, which is based on independent research and analysis done by IMaCS. Projection of HRD requirements for footwear industry has been calculated and given by IMaCS based on 12% CAGR (Compound Annual Growth Rate) for Exports and 8% CAGR for domestic markets. For Export markets, for the year of 2011, estimated figures are given below:[6]

Table No.11- Human resource required by the exports segment in leather sector by 2011 (in '000s)

Product	Human resource / unit of production	Human resource requirement
Footwear	400 persons/1000 pairs/ day	400

ICRA Management Consulting Services Limited (IMaCS) analysis estimates the requirements of human resources for Indian footwear industry. Below table shows the estimates for different years and incremental figures for future requirements.

Table No.12 - Human resource requirement in the footwear industry between 2008 and 2022 (in '000s)

Sector	2008	2012	2018	2022	Incremental
Footwear and footwear components	1,100	1,698	2,334	3,141	2,041

Employment opportunities creation is very important to any nation like India. Footwear industry is giving more employment opportunities since the people are spending more on footwear and its quality. More opportunities in exports and domestic markets due to population growth and increase in per capita consumption and purchasing power of middle class people are giving hope to India in footwear sector for future employment creation in India. Being a labour intensive industry, its contribution to employment as well as Indian economy is significant. It has potential to provide employment across all sections of the economy especially weaker sections and minority communities in India. With a focused approach on growing the Industrial and Institutional business, the industry can offer globally renowned industrial footwear products. Quality consciousness, research & development, abundance of raw material, export potential and low cost are some of the distinct features of the Indian Footwear Industry. However, to maintain the growth trajectory, there is need of a purposeful review of programmes and policies of human resources development to rejuvenate it.

Courtesy: International Journal of Innovative Research in Science, Engineering and Technology

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***Shri. Peter Rocklyeft,
Chief Moderator***

from Leicester College, Textile Institute, UK
visited CFTI on 28.09.2015 for moderating
the students of CFTI.





Shri. Peter Rocklyeft, Chief Moderator's visit to our Institution