

**G**LOBAL  
**A**CADEMIA  
**I**NSTITUTE/INDUSTRY  
**N**ETWORKING



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**CSIR-CLRI**

## **Leather Education: Past Indian Scenario**

- **1914 - Institute of Leather Technology, Chennai**
- **1916 - Government Leather Institute, Kanpur**
- **1919 - College of Leather Technology, Kolkata**
  - **More of Industry based-not an academic programme**



## Leather Education: Past Indian Scenario

- 1940's Establishment of Leather Technology programme at Chennai
- 1950's at College of Leather Technology, Kolkata
- Mid 80's at HBTI, Kanpur
- Late 90's witnessed series of institutions (Private & Govt.) offering the programme



## Leather Education: Current Global Scenario

Institute	Country
Bangladesh College of Leather Technology	Bangladesh
Key Laboratory of Leather Chemistry and Engineering, Sichuan University, Chengdu; Shaanxi University of Science & Technology, College of Resource and Environment	China
Leather Industry Development Institute, Ethiopia	Ethiopia
Centre Technique Decuir	France
Centre for Leather, Rubber and Plastics	Indonesia
ARS Sutoria (Footwear & Products School)	Italy
Hyogo Prefectural Institute of Industrial Research ; Scleroprotein & Leather Research Institute; Tokyo Metropolitan Leather Technology Center	Japan
KIFLT Korean Institute of Footwear and Leather Technology	Korea, Republic of



## Leather Education: Current Global Scenario

Institute	Country
Institute of Leather Technology; Pakistan Institute of Fashion & Design; PCSIR Labs Complex	Pakistan
Sudan University of Science & Technology; University of Juba	Sudan
Taiwan Footwear Research Institute	Taipei Chinese
Dar Es Salaam	Tanzania
Vietnam Leather & Footwear Research Institute	Vietnam
British School of Leather Technology	UK



## Academia-Institute-Industry Trinity

**CLRI Experience**



## Genesis

- Department of Leather Technology was started in 1945 in University of Madras with a view to establishing Leather research Institute at Chennai
- CSIR funded the programme with an annual grant of Rs. 60000/-
- Governing body of CSIR approved the establishment of CLRI at Madras citing the academy and a developed industry
- In 1948 foundation was laid for CLRI and CLRI was part of Department of Leather



- In the early 50's Pilot tannery at CLRI was commissioned and Department of Leather Technology was shifted to CLRI and CLRI became Department of Leather Technology
- Subsequently CLRI established other supporting R & D and service departments and Department of Leather Technology is now part of CLRI
- Centre for Human & Organisational resources Development (CHORD) Division at CLRI functions as the Department of Leather Technology



## Evolution of Academic Programmes

- 1945- 2 year Post Bsc.Tech
- 1951-Shifted to Guindy
- 1955- first PhD in Leather
- 1956-MSc Tech
- 1957- 4yr BSc Tech
- 1961- 5 yr Integrated B Tech
- 1963- 2 yr M Tech (Leather)
- 1978- Formation of Anna Univ
- 1980- 4 yr B Tech Degree
- 1983- 3 sem. M Tech
- 1987- M Tech Footwear
- 1996- MS by Research
- 2000- 7 sem B Tech (Part Time)
- 2002- 2 yr M Tech (Leather)

**1997- Leather Technology Mission**

**2004- Collaboration with NIFT**

**2004- HRD Mission (Government of India)**

## Courses of Anna University Conducted at Dept of Leather Technology, CLRI

- B Tech (Leather)- 4 years
- B Tech (part time) - 3<sup>1</sup>/<sub>2</sub> years
- M Tech (Leather)- 2 years
- M Tech (Footwear)- 2 years
- PhD (Faculty of Technology) 3-4 years
- M. S (by research) - 2-3 years



## Courses and current strength profile

Course	Current Strength
B Tech (Leather) (Anna Univ)	176
M Tech (Leather; Footwear Science & Engg.) (Anna Univ) & MSc (LIDI/AAiT)	19
PhD (Madras as well as Anna Universities)	132
PG Diploma in leather processing (Post BSc)	2
Diploma courses in leather, footwear, leather garments, leather goods	50
Students from various colleges/University pursuing research project	~400



Total number of students and trainees at any given time is about 500

## Driving Excellence in Leather Science & Technology



- The department had contributed in producing high quality minds;
- The alumni of this department are holding some of the highest positions both in academic and industrial establishments such as Secretary of Department of Science and Technology (Ministry of science & technology);
- Several of our alumni are entrepreneurs setting up leather and leather products industries there by contributed in generation of huge employment potential for the nation

## Uniqueness of the Academic Programme

- Scientists of CLRI are the core faculty(honorary) members for the Department of Leather Technology of Anna University
- More than 50 scientists are involved in teaching process: Dept with a high faculty to students ratio
- CLRI interfaces between leather industry and academy; trinity of Academy-Research-Industry
- Dynamism in tuning the curriculum according to changing needs of the industry



## Govt Initiatives for HR Promotion

- Leather Technology Mission in 10<sup>th</sup> Plan Period
- HRD mission in leather sector in 10<sup>th</sup> and 11<sup>th</sup> Plan
- Distance education models and “reaching the unreached” through new pedagogy innovations.



## Global Positioning of CLRI

- CLRI during inception had gained exposure from west
- Application of Pedagogical skills for dissemination
- Experience gained was shared with the needy third world countries
- Expertise/establishment in frontier areas of science – enabled CLRI to be a global leader



Asian Productivity Organization (APO) delegates during the inauguration of training program (1963)



Seminar on Collagen conducted in 1960 at CSIR-CLRI attracted Global researchers

## Global Positioning of CLRI

- Environment Technologies for Tanneries, The Netherlands Organization (TNO), The Netherlands, British Leather Corporation (BLC), UK, Haskoning, Walker Leather
- Salinity reduction of Tannery effluents in Indian and Australia; Australian Centre for International Agricultural Research (ACIAR), Australia
- EU programme on cleaner leather manufacture; involves five nations viz., Austria, Bangladesh, Germany, India and UK



TNO Collaboration



ACIAR Collaboration



## MODEUROPE Collaboration

- A collaborative effort between CLRI and DSI, Germany, Council of Leather Exports and Indian Shoe Federation – the MODEUROPE has been going on since 1994
- This initiative is to bring to the fore the ability of the Indian Leather Industry to take pro-active measures in fashion forecasting and design development by providing a scientific shoe design development focus in the areas of color forecasting, range building, design and retail analysis



## Ethiopian Collaboration

- CSIR-CLRI has taken up the benchmarking program with the primary objective of transforming the Ethiopian tanning sector for its technology upgradation
- TWINNING project is structured, planned to build the capacity and transform Leather Industry Development Institute (LIDI), Addis Ababa



## International Training at CLRI

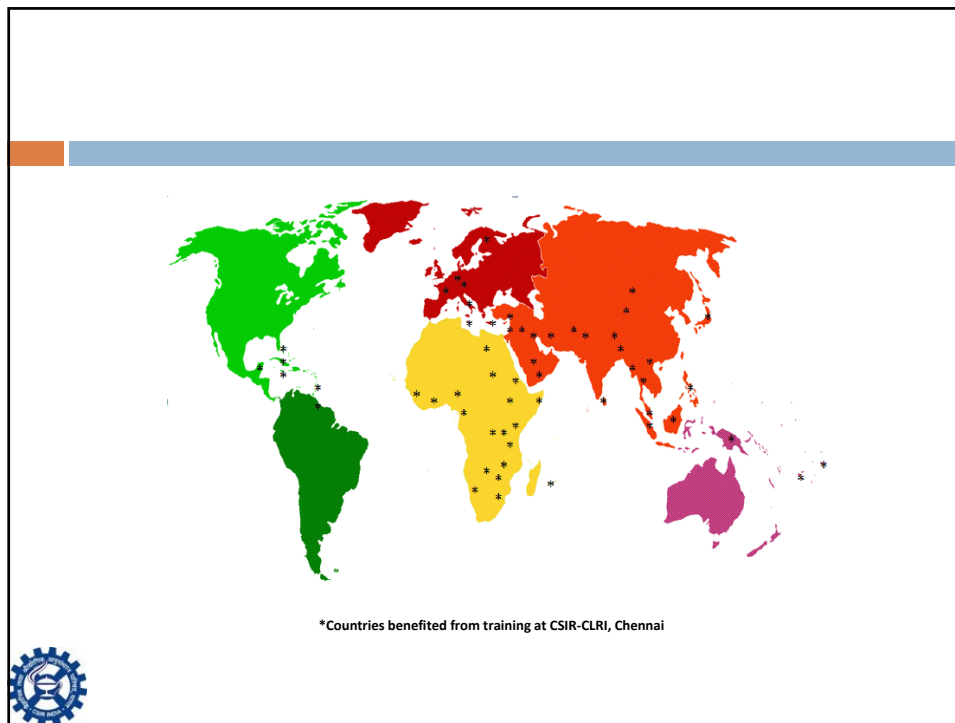
- More than 400 candidates from 65 different nations have undergone specialized training at CLRI
- CLRI Under UNIDO/UNDP has conducted several programmes in leather, leather products and environment
- Programmes range from specialised short term to that of offering masters and PhD



## International Collaboration New Opportunities

- Leather and Shoe Research Institute (LSRI), Vietnam has signed an MoU for collaborative programme with CSIR-CLRI in the areas of Cleaner Processing and Environment Management
- South African Institute has evinced interest and initiated dialogues for HRD in leather and products.
- Leather Institute from Tanzania (**Former Tanzania Institute of Leather Technology - TILT**) is looking forward to strengthening their leather sector in collaboration with CSIR-CLRI





## Academy of Scientific and Innovative Research (AcSIR)

- create an ambience for learning and scholarship in advanced science and technology instead of exclusively focusing on marks or grades;
- establish linkages with industries in India and outside India for the promotion of science and technology;
- collaborate, in appropriate areas in the field of science and technology, with reputed universities and institutions in India or outside India;
- promote research in science and technology having a bearing on social, economic, cultural, intellectual and academic welfare of the people.



## Way forward for Innovations

- Leather and Leather Products Manufacture is highly multi-disciplinary
- Manufacture requires approaches for unleashing mind to use leather for newer applications
- Innovative vocational programmes meeting the needs of specific sector and aiming at creation of Skill base in large numbers
- Newer Academic programmes to support multidisciplinary approach
- Global consortia amongst academia, institute and industry should be created to drive innovations in Leather



“Change is the condition of progress in mind” –  
Mahatma Gandhi

Global leather sector should embrace change for its growth and sustained development



# Thank You



**Delegation from Leather and Leather Products Technology Institute (LLPTI), Ethiopia at India**

**Interaction between BSLT- LLPTI - CLRI (from left to right)**



**Specialized programme for delegation from African countries sponsored by COMESA-LLPI**

## Future Directions

Visions of Dr Ramasami

- Technology and research professionals in leather will command higher relevance
- Those who break the barriers of knowledge will prevail over others
- Trained technologists and innovators gaining command of the global leather product sector
- India attracts high quality minds for leather and footwear education and research currently. May be in 20 years, we will see the dividends for these investments



## Need for Global Alliances

- Leathers for Newer and Smarter Application
- Leather for unconventional applications (need to think beyond the convention for creating new and unconventional uses of leather)
- Creating niche products (space suits, stealth garments etc)
- Health care products (building health monitoring chips integrated into footwear/other leather products; leathers for wound care management etc)
- Smarter applications (charging mobile phones; i - gloves etc)



## Global Trinity Model

- Anna University – CLRI – Indian Leather (The best trinity model and this is replicated in other countries and now we need to cross beyond boundaries and have international cooperation)
- Global consortia amongst academia, institute and industry should be created to drive innovations in Leather

