

Future Technologies of Leather Manufacturing

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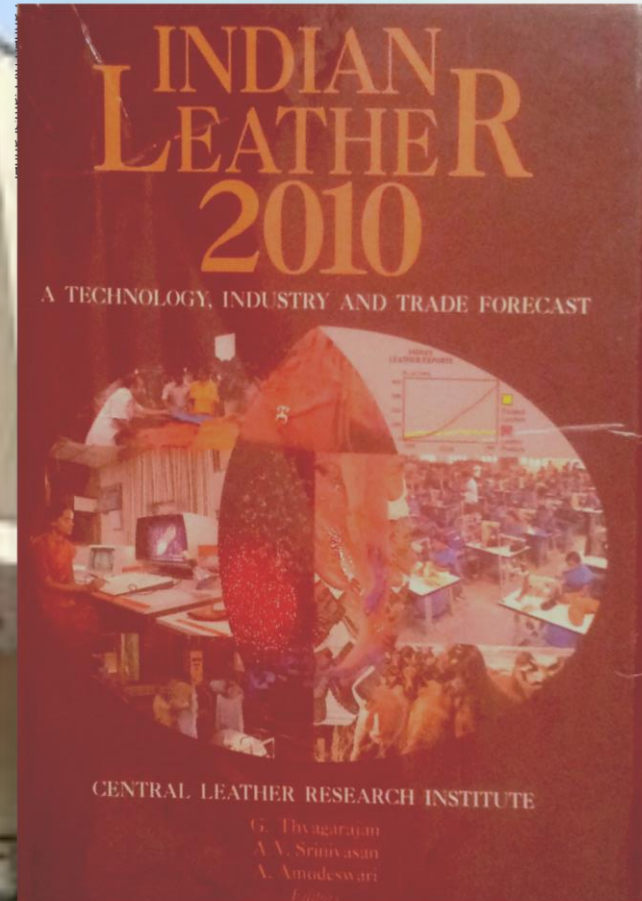
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Future of the Past

TAFILS (Technology Assessment and Forecasting in Leather Sector), the exercise was accomplished in 1994 forecasting leather trade, technology and economics supported by **TIFAC**, DST.



Future Technologies?

Future

50 years from now (2065 CE)

Technology domains

- Process technology
- Leather auxiliaries
- Engineering
- Waste management

Geography

- India





Future Process Technology

Pretanning processes

- **Salt-free preservation**

There will be possibly governmental directives and incentives to opt for salt-free preservation

- **Enzyme only unhairing**

Governmental directives to mandate the practice of sulfide-free enzyme unhairing

And the cost of enzymes would be brought down significantly



Future Process Technology

Tanning

- **Chrome tanning**

BCS will be the king of tanning

Chrome recovery and reuse will be replaced by more effective methods

High exhaust BCS will be used predominantly



Future Process Technology

Tanning

- **Chrome free tanning**

Chrome free tanning will be in vogue for niche products, however the volume will not be significant



Future Process Technology

Wet-finishing

Auxiliaries for imparting special properties and less polluting will have huge demand

Significant market for Liquid syntans

Composite products such as lubricating syntans will witness comeback



Future Process Technology

Finishing

New coating techniques of less waste, less polluting and hazard-free will be practiced



Future Engineering

Drum and process equipment

Drum will be the popular process vessel; however engineering modifications to bring about energy efficiency and low noise level will be in use

Machines / equipment for hair recovery, water and chemical dosing and in-process control tools will be widely used



Future Waste Management

Wastewater

Effective in-plant pollution reduction measures will be implemented by tanners voluntarily

RO will be eased off

Modern wastewater treatment systems (primarily aiming at reuse) occupying less space will be in place



Future Waste Management

Odor

Odor abatement systems will be made mandatory

Tanneries will have either scrubbers or bio-filters



Future Waste Management

Solid wastes

Almost all the solid wastes will become by-products of tanning industry and value-added products will be produced from them



Thanking you all and
Wishing you good **HOPE**
for a profitable future