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Leather and Environment





ENVIS CENTRE



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Contents		
Foreword		
Leather and Environment	3	1
International Scenario	4	
Indian Policy for Leather Technology &		
Environmental Issues	6	
Eco-labels and Leather	9	

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The leather and leather products industry occupies a prominent position in the world's economy with an estimated global trade value of approximately US\$100 billion per year. It is known to be one of the key sectors boosting development but is also recognised as a major polluting industry. It generates solid waste and industrial sewage at various stages of processing. Tannery waste contains chromium and other hazardous compounds and these pose a major threat to the health and environment. When the waste dumped into water systems, it can

damage fish gills, incite respiratory problems, infections, infertility, and birth defects. It can also instigate a number of serious cancers in animals and throughout the food chain. In humans, chromium causes a numerous ailments depending on how it is absorbed. When inhaled, it acts as a lung irritant and carcinogen. It affects the upper respiratory tract, obstructs airways, and increases the chances of developing lung, nasal, or sinus cancer. If it is absorbed through unprotected handling, it can cause dry, cracked, and scaled skin; as well as erosive ulcerations known as "chrome holes."

There is a need to revamp leather processing methods anew for the sustainability of the leather industry. Sustainability refers to the synchronised accomplishment of environmental, social, and economic balance. During recent years protecting the environment has become a global issue. The leather processing industry is also going through a phase change due to global environmental regulations.

The International Standards Organisation (ISO) and the standards body of the different countries are in the process of ratifying and adopting the standards and test methods developed for leather by the International Union of Leather Technicians and Chemists (IULTCS). There are many national and voluntary schemes for the eco-labelling of leather products. Eco-label promotes "environmental excellence in the life cycle of the material, from the extraction of raw material through to production, use and disposal."

The present issue gives the information about the adverse impact of the leather-making activity on the environment. Industries and government of different countries are taking significant steps to combat the environmental problems. The Indian Government has implemented the Indian Leather Development Programme (ILDP) during its 12th year plan period aiming at the overall development of the leather sector. It advises consumers how to distinguish leather products which have undergone stringent testing and are free from hazardous substances. It also reveals that the product conforms to strict international/ regulatory requirements and consumer expectations.

Leather and Environment



he global environment is gradually worsening as a result of the socio-economic activities. Leather tanning industry plays an important role in the economy of a country through employment and export earnings, but resulting pollution from tanning process causing severe environmental degradation.

The entire life cycle for leather products, from the beginning to the end of the product's life, involves an array of chemicals and materials and has an impact on health and environment.

Leather processing comprises of series of operations that can be classified as pre-tanning, in which hides or skins are cleaned; tanning process, which permanently stabilizes the hides and post-tanning or finishing operations, where final shape value is added for manufacturing of leather. Tanning requires massive amounts of energy and dangerous chemicals, including mineral salts, formaldehyde, coal-tar derivatives, and various oils, dyes, and finishes, some of which are cyanide-based. 80-95%of all leather produced uses chrome tanning.

In the manufacturing stages, large amount of machinery and chemicals are required to produce leather products. To power these machines, a great amount of fossil fuels are needed and these fossil fuels produce greenhouse gases when burned. Coal is one of the sources of energy that used very often to power local factories. Burning coal produces carbon dioxide contributes the greenhouse effect.

After the leather product is manufactured, there are unwanted pieces of leather left over. These find their way into oceans, landfills and water sources. This takes fifty to one hundred years to decompose, and in the meantime the chemicals used to tan and dye the leather leach out into the environment.

Transport-related CO₂ emissions also contribute to the environment during transportation of products. Dumping or improper disposal in unprotected dumpsites also contributes.

Additionally, to raise the animals whose skin eventually becomes leather, huge amounts of feed crop, pastureland, water, and fossil fuels are required. Large numbers of trees are cleared to create pastureland. Animals on factory farms also produce large quantities of excrement. Farms which do not have waste treatment plants directly dump these wastes into the environment. The US Environmental Protection Agency (EPA) has acknowledged the fact that livestock pollution is the greatest threat to waterways.

People who work in and live near tanneries have a high risk of contacting cancer caused by exposure to toxic chemicals used to process and dye the leather. The chances of leukemia among such people are very high. Arsenic, a common tannery chemical, has also been associated with lung cancer in workers who are exposed to it on a regular basis.

In the **New Scientist**, a lawyer for China's Centre for Legal Assistance to Pollution Victims describes conditions on one river poisoned by waste from a nearby tannery: "A few years ago, villagers could swim in the river. Now they get blisters on their hands and feet from touching the water. ... When you stand close to the river you can smell rotting flesh because the leather factory dumps its sewage, made up of



animal skin and meat, untreated into the river." Is a leather jacket, belt, or pair of shoes really worth that?

To get sustainable environment friendly leather each industry should be strongly committed to a clean and healthy environment by producing high quality finished leather in an environmental friendly manner. To achieve this, they should establish and maintain the objectives and targets in accordance to their environmental policy and meet the following principles:

- Compliance with the environmental legislative and other requirements which are subscribed
- Application of recycling, recovery and reuse techniques to reduce the level of pollution at optimum achievable level
- Proper treatment where applicable and disposal of all types of wastes
- Provide time to time trainings to enhance the level of awareness and competency of all management and non-management workforce.
- Promote more efficient and environmentally friendly production techniques

Source:

https://www.ukessays.com/essays/environmentalsciences/environmental-impact-of-leather-tanningindustry-environmental-sciences-essay.php http://www.designlife-cycle.com/leather/

International Scenario

G lobal leather industries, government and international organisations have taken significant steps to combat the environmental problems and investing in clean technology. The use of best available technology continues to reduce the use of water, chemicals and energy in the process, convert waste into new raw materials, and treat residual waste to international standards.

Australia

The Australian standard sets the benchmark for environmentally preferable products. The Australian Eco-label Programme is based on the international standard ISO 14024: Environmental Labels and Declarations - Guiding Principles which requires environmental labelling specifications to include criteria that are objective, reasonable and verifiable. The Textiles and Leather (TLv3.0-2014) Standard is applicable to hide and leather products consisting of at least 90% by weight of leather/hide. This standard was developed in conjunction with Environmental Choice New Zealand (ECNZ). Some of the requirements are harmonised with the European Union's eco-label criteria for textile products (voted positively by the EU Eco-label Regulatory Committee in November 2013).

International Union of Leather Technologists and Chemists Societies (IULTCS)

It encourages technology, chemistry and science of leather on a worldwide basis. It networks and extends the interchange of knowledge and experience between leather technologists and chemists worldwide by increasing the collaboration between member societies. It is a world-wide organisation of professional societies, was originally organised in London in 1897. In 2017 there are currently 20 Member Societies and 4 Associate Members representing some 3,000 individual members. India is also a Member Society.

The International Union of Environment (IUE) Commission is one of the five Commissions of the IULTCS. The IUE Commission meets every year in one of the member countries and discusses environmental issues and technological solutions to tackle the pollution problems in tanneries. IUE has developed technical guidelines for many environmental protection measures for the international leather industry. The IULTCS, through the IULTCS Testing Commissions (The IUC (Chemical Test Methods), IUF (Fastness test methods) and IUP (Physical test methods)), provides help and protection for the leather tanning industry worldwide by developing and publishing test methods that are explicitly relevant to leather manufacture and leather usage. Without the work of the IU Commissions, which develop these test methods, the leather industry could be open to having to meet performance standards of other materials that bear no relationship to the reality of working with leather. The IULTCS test methods are accepted by the International Organisation for Standardisation (ISO) and following agreements in 1990 and re-affirmed in 2005, the ISO recognises IULTCS as an International Standardising Body.

International Standard Organisation (ISO)

In the area of the development of standards for methods of test for leather ISO has established a working relationship with the International Union of Leather Technologists and Chemists Societies (IULTCS) that essentially takes the form of a standards development partnership. In this partnership ISO recognises the IULTCS as an international standardising body, reflecting the fact that the IULTCS has an established consultation process in its sector that resembles that of ISO in its ability to obtain a consensus opinion in a democratic manner. This status permits the IULTCS to propose that a standard developed by that body may be



submitted directly for vote as a final draft International Standard without having been previously subjected to the full ISO review procedure.

This partnership only relates to test methods for leather. The standards development work on standardisation in the field of raw hides and skins including pickled pelts, tanned hides and skins and finished leather, and leather products (including methods of test for leather products) is undertaken by ISO / TC 120. Standards development for leather footwear is the field of work of ISO / TC 216, whereas protective clothing and equipment that utilise leather components is the field of work of ISO / TC 94.

It has also developed ISO standard 26000 with the aim of creating a set of CSR (Corporate Social responsibility) standards for the leather industry. ISO 26000 is a voluntary guidance standard that is not to be used for certification.

European Union (EU)

The EU is a major actor of the global leather market. Its leather industry is made up of diverse products and industrial processes. European Committee for Standardization (Comité Européen de Normalisation, CEN) was founded in 1961 by the national standards bodies in the European Economic Community and EFTA countries. CEN is contributing to the objectives of the European Union and European Economic Area with voluntary technical standards which promote free trade, the safety of workers and consumers, interoperability of networks, 16 environmental protection, exploitation of research and development programmes, and public procurement. Leather related European standards are developed through the technical body CEN TC 289. There are currently 143 standards with relevance to leather products. These standards cover a number of fields. One standard provides, for example, the guidelines for the test methods and recommended values for upholstery leather for furniture and another standard specifies a method using microscopy to identify leather and distinguish it from other materials.

United States

In 1985 the US Environmental Protection Agency established standards to control pretreatment of the liquid wastes that tanners discharge indirectly to publicly owned waste treatment facilities. All leather tanneries must mandatorily meet the Environmental Protection Agency (EPA) waste standards. These standards apply to waste acidity and to wastes containing sulfides and chromium. All tanners discharging directly into waterways were required to operate with the EPA-approved National Discharge Elimination System (NDES) permits. In addition to the Environmental Protection Agency waste standards, in 1990, the Clean Air Act along with other strict federal standards have helped to curb the emission of volatile organic compounds into the air. This has encouraged leather tanneries to develop low-solvent or solvent-free finishing technologies.

The leather standards of American Society for Testing Materials (ASTM) are instrumental in the determination, testing, and evaluation of the various physical and chemical properties of different forms of leather. These standards help users and producers of leather goods all over the world in assessing their materials for good quality and workmanship towards satisfactory use.

Source:

https://www.iso.org/committee/55240.html, http://wtocentre.iift.ac.in/UNCTAD/04.pdf https://ec.europa.eu/growth/sectors/fashion/leathe r_en http://www.iultcs.org/pdf/IULTCS-ISO-EN_Leather_test_methods.pdfhttps://www.astm.or g/Standards/leather-standards.html http://www. geca.org.au /media/medialibrary/2016/07/ Textiles_and_Leather_TLv3.0-2014.pdf, http://www. leathercouncil.org/perspective.htm,https://www.iso .org/news/2010/10/Ref1366.html

Indian Policy for Leather Technology and Environmental Issues

ndian Leather industry is recognised as the most promising foreign exchange earning sector since early '70s. Globally, India is the 2nd largest producer of Footwear and 2nd largest exporter of Leather Garments. India's leather industry is set to grow exponentially over the next five years with a growth target of 50% in exports from 2016-20.Per capita consumption of footwear in India is projected to increase and total domestic consumption is expected to reach up to 5 billion pairs by 2020. The industry is highly labour intensive and employs around 3 million people out of which 30% are women.



Indian Leather Development Programme

The Government has implemented Indian Leather Development Programme (ILDP) during 12th plan period aiming at overall development of the leather sector. ILDP a central sector scheme is designed in six-sub schemes with a special focus to reduce the skill gaps as well as feed the futuristic demand of upcoming Mega Leather Clusters, technology upgradations and Common Effluent Treatment Plants (CETPs). It has introduced organised slaughter practices, effective collection of animal skins and environmentally friendly preservation systems The six-sub schemes are

- 1. Integrated Development of Leather Sector
- 2. Human Resource Development
- 3. Support to Artisan
- 4. Leather Technology, Innovation & Environmental Issues
- 5. Mega Leather Cluster
- 6. Establishment of Institutional facilities
- 1. Integrated Development of Leather Sector: It is aimed at enabling tanneries, footwear, footwear components, leather goods and accessories, leather garments, harness & saddlery manufacturing units to upgrade themselves leading to productive gains, rightsizing of capacity, cost cutting, design and development including simultaneously encouraging entrepreneurs to diversify and set up new units in the areas as specified.
- 2. Human Resource Development: Its objective is to enhance skills of the operators to produce technically better products for the consumers and help establish Indian Brands.
- 3. Support to Artisan: It will provide necessary design and product development support and market linkages for the better positioning of the ethnic products to ensure better return to the artisans.
- 4. Leather Technology, Innovation & Environmental Issues – Tanning activities are linked to environmental concerns. These issues are slowly gaining ground and extensive measures need to be put in place for industries to cope with the stringent norms. Tanneries

have taken considerable steps to address the issue of wastewater treatment. Tanneries are connected to wastewater treatment mechanisms, which can render the wastewater amenable to discharge. Zero wastewater discharge is also made mandatory in some states and the tanneries have installed adequate amenities in place to attain zero wastewater discharge. However, as the environmental issues continue to exert significant force of down pulling; this is one issue that is directly connected to the sustainability of the industry.

The assistance would be provided for the following four categories of environment related projects:

- Technology Bench Marking and Environmental Management for Leather Sector
- Common Effluent Treatment Plants (CETPs)
- Solid Waste Management
- Environment Related Workshops

During 12th Five Year Plan, assistance has been provided to 2 CETP projects having Zero Liquid Discharge (ZLD) technology at Tamil Nadu SIDCO (Small Industries Development Corporation Limited)-II and Dindigul (Tamil Nadu) out of 6 the CETPs approved during 11th Five Year Plan. Rs. 2.27 crore and Rs. 12.53 crore has been released for these projects respectively. One Project of Solid Waste Management in Calcutta Leather Complex has been completed with Government of India assistance of Rs. 95.12 lakh under ILDP.

- 5. Mega Leather Cluster: The objective is to create world-class infrastructure and to integrate the production chain in a manner that caters to the business needs of the leather industry so as to cater to the domestic market and exports. These mega clusters assist the entrepreneurs to set up world-class units with modern infrastructure, latest technology, and adequate training and Human Resource Development (HRD) inputs.
- 6. Establishment of Institutional facilities: It aims to provide infrastructure by way of establishing two new campuses of Footwear Design and Development Institute (FDDI) to meet the growing demand of the leather industry for

footwear technologists, designers, supervisors and mechanics. It is proposed to set up two new branches of FDDI in Punjab and Gujarat. The two branches will be self-sustainable.

Indian Leather Mark: Brand Building

India manufactures about 18% of world leather and is the second largest footwear manufacturer after China. India is a large supplier to several International Brands gaining a wealth of knowledge and hands - on experience over the years in catering to these brands. India has huge domestic market in footwear and leather products. Due to growth of affluence levels of consumers; there is a need to focus on the concept of branding in this sector.

To capture the global as well as Indian market 'Leather Mark' will standardise Indian Products making them competitive in the both markets. It is recommended to create an 'Indian Leather Mark.' The Mark will be awarded to domestic companies based on their performance and standing across pre-set criteria such as capacity, technology, manufacturing excellence, packaging, sales and customer satisfaction. It will help them aim for improvement across all work areas ultimately resulting in better end product for the consumer making Indian products more competitive in the Domestic as well as International markets.

The Indian Leather Mark will aim - "To create World Class Brands in the Indian Footwear & Leather Products Sector with unmatched Brand image in India and Overseas."

Eco-labelling scheme

The Ministry of Environment, Forests and Climate Change, Govt. of India has instituted a scheme on labelling and created 'Ecomark' for leather and leather products. In order to be eligible for the Ecomark, leather products must meet criteria on general environmental aspects like water and air pollution; and specific requirements. Unlike other products covered by the Ecomark scheme, leather products are not required to get an ISI mark from the Bureau of Indian Standards.

General Requirements: The manufacturers shall produce consent clearance as per the provisions of the Water (Prevention and Control of Pollution) Act,



1974, and the Air (Prevention and Control of Pollution) Act, 1981, along with the authorisation for Hazardous Waste Management, if required under the Environment (Protection) Act, 1986, for seeking Ecomark certification from the Bureau of Indian Standards. The product packaging shall display in brief the criteria based on which the product has been labelled environment friendly.

Packaging

The material used for product packaging shall be recyclable or reusable or biodegradable.

Product Specific Requirements:

It should meet the specification mentioned in the Indian Standard:

IS 14898:2001 Eco Criteria for Finished Leather —Specification

IS14816:2000 Leather-Method of Tests for Eco criteria

IS 1436: 2011 Patent Leather - Specification

Council of Scientific and Industrial Research (CSIR)'s Initiatives

CSIR has come out with a "Game changing technology" for enabling the Indian leather sector achieve the set target of USD 27 billion by making leather processing environmentally sustainable by 2020. This "Waterless chrome tanning technology" is a first of its kind technology to reduce chromium pollution load. Its "Waterless tanning technology" has found PAN INDIA acceptance, with tanners in all clusters enrolling for its adoption. Significance of this technology is that it completely eliminates two processes before and after tanning, eliminates the use of water in tanning, reduces the total dissolved solids in wastewater from this process by 20% and

also brings down the usage of chromium by 15-20%, resulting in material saving. These technological interventions in the leather industry realises the vision of Make-in-India, in terms of development of first of its kind leather chemicals, environmental friendly leather processing, global fashion forecasting for colours, designs thus leading to increased trade and exports.

The objective of CSIR through Central Leather Research Institute (CLRI) is to meet the requirements of global leather sector, relevant regulatory and statutory bodies and other stake holders with continual improvement in its services, while aligning itself to the National agenda through technology innovation led solutions for the sector.

Make in India Initiative

Leather and leather goods are among the 25 focus sectors under the Make in India initiative. The government aims to increase the exports to USD 15 billion by 2020 from the current USD 7 billion.

Source: https://drive.google.com/file/d/0B-Tv7 upCKANTG5Oek13cGdgelk/view http://dipp.nic.in/English/Schemes/Dept Leather.a spx#MainContenthttp://planningcommission.nic.in/ aboutus/committee/wrkgrp12/wg leath0203.pdf, http://pib.nic.in/newsite/PrintRelease.aspx?relid=1 53222

Eco-labels and Leather

co-labelling has become an increasingly popular instrument in recent years. Eco-labels contribute to the improvement of environmental performance and influence consumer behavior in two ways. First, they introduce green as a considered attribute at the point of sale. Second, they enable consumers to comparison shop based on green. Consumers can push industry to produce and market environmentally friendly products. These are market-based instruments used to complement environmental laws and regulations.

The United Nations Industrial Development Organization (UNIDO) has raised concern on the environmental aspects of hide and skin trading. It feels that the adoption and implementation of appropriate measures in eco-labelling could ensure both a smooth flow of goods internationally and a proper protection of the environment.

European Union Eco-label for Footwear

It can be awarded to all categories of shoes, including sports shoes, occupational, children's, men and women's town, specialist shoes for cold.



casual, fashion and indoors. "Footwear" shall comprise all articles designed to protect or cover the foot, with an applied sole which comes into contact with the ground. They are using recycled packaging. EU Eco-label guarantees for the natural origin raw materials sustainably managed; reduced pollution in production processes; minimised use of hazardous substance and tested for durability.

Nordic eco-label for leather

Nordic Eco-labelled textile, hides/skins and leather fulfill a range of environmental, health and quality requirements. This means that requirements are set for various stages



of the production process, from the production of fibres and hides/skins to the further treatment to create the finished textile or leather product. The criteria focus on reducing the environmental impact of the production and consider the health of both workers and consumers. It not only covers environmental issues but also guality requirements, since the environment and quality often go hand in hand. So the Nordic Eco-label license can also be seen as a mark of quality.

Blue Angel for Leather

The Blue Angel eco-label of Germany for low-emission upholstery leather signals to the consumer that leathers bearing the label have been manufactured with the aim of minimising their impact on health and



environment during manufacture, the entire useful life as well as during recycling and disposal. The ecolabel enables the manufacturer of upholstery furniture as well as the upholstery craftsman to deliberately choose Blue Angel-eco-labelled lowemission upholstery leathers for their products and, thus, offer upholstery furniture to the consumer that does not pose a risk to their health. The eco-label for shoes identifies footwear and the base materials such as leather from environmentally friendly production, tested for hazardous substances. In addition to environmental and health protection requirements, it includes specifications for high social standards.

ECO₂L Energy Controlled Leather

The ECO₂L label (energy controlled leather) encompasses the calculation and auditing model for calculating the energy



efficiency and CO₂ emissions of a tannery. ECO₂L was developed by the Forschungsgemein-schaft Leder e. V. of Germany (Leather Research Foundation) as an active contribution of a responsible leather industry towards climate protection and as a significant aspect to evaluate a sustainable leather production. The certificate is assigned by the independent Forschungsinstitut für Leder- und Kunststoffbahnen gGmbH (FILK). Auditing is conducted on behalf of FILK by independent, officially appointed auditors. Certification includes the right to use the label for promotional purposes for a period of three years.

Ecomark

Ministry of Environment, Forest and Climate Change, Government of India operated seal of approval programme for



environmentally preferable consumer products. The eco-labelling scheme is known as 'Ecomark.' The criteria follow a cradle-to-grave approach, i.e. from raw material extraction, to manufacturing, and to disposal. The Ecomark label is awarded to consumer goods that meet the specified environmental criteria and the quality requirements of Bureau of Indian Standards.

Environmental Choice New Zealand (ECNZ)

The eco-label is designed to identify sustainable products and services. The product must comply with the provisions of all relevant environmental laws and regulations that are applicable



during the product's life cycle. The criteria for Skins and Leather are defined in "EC-31-12: Textiles, Skins and Leather" for the certification. The label may appear on the wholesale and retail packaging for the product, provided that the product meets the requirements in this specification and in the License Conditions. Wherever it appears, the label must be accompanied by the words 'Textile' or "Skin" or "Leather" and by the Licence Number eg 'licence No1234'. The label must be reproduced in accordance with the ECNZ programme's keyline art for reproduction of the label and the License Conditions.

Good Environmental Choice Australia (GECA)

This standard identifies environmental, quality, regulatory and social criteria that leading products sold in the Australian marketplace can meet in order to be recognised by GECA as



"environmentally preferable." This standard is applicable to the hide and leather products consisting of at least 90% by weight of leather/hide. This standard includes skins and leather from for example cattle, sheep, goats or pigs; however any animal skin that is subject to any conservation covenant, regulation or law in any jurisdiction is excluded from the scope of the standard.

EMA label

The African Eco-Labeling Standards (AES) are a clear set of pan-African sustainability criteria defining

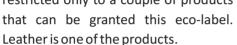
good social and environmental practices in products and services on which the sustainability EMA label is awarded. The EMA label is used to



express sustainability claims of products and services. The eco-labelling presents the greatest opportunity for the Kenyan leather footwear industry to expand its presence in the EU market.

Ekolabel

Eco-labels in Indonesia have developed in cooperation with Japan International Cooperation Agency. This eco-label is restricted only to a couple of products



ECO-TOX LABEL

International Council of Tanners (ICT) launched ECO-TOX LABEL for leather. In formulating its Environmental Impact & Safety Compliance Statement ICT has made use of the self-declaration format which is being developed by the ISO



technical committee on Environmental Management. However, rather than wait for completion of the ISO deliberations, or those initiated by UNIDO, ICT deems it desirable to take the initiative now.

eco-INSTITUT

It is a German eco-label that test emission and

residues of hazardous chemicals in leather. It tests emissions measurements capabilities according to ISO 160000 and EN 717-1.



Leather Label by OEKO-TEX®

The leather product labels are internationally

registered trade-marks. It is a worldwide consistent, independent testing and certification system for leather and leather articles of all levels of production. Examples of articles



production. Examples of articles that can be certified are: semi finished leather products (e.g. Wet-blue, Wet-white, Crust etc.),

finished leather, leather fiber material, readymade

articles (garments of all types, accessories, leather gloves, leather handbags, leather covers and much more). Switzerland based OEKO-TEX[®] certifies textile and leather products. It s a third-party certification system for leather articles of all levels of production tested for harmful substances. Certificates are issued if all components of an item meet the annually updated requirements.

S G Mark

It certifies leather goods, leather products, leather

garments and shoes. This symbol demonstrates that goods are tested for harmful substances, comply with certain emission limits and are safe for health. The criteria refer only to finished



products. The SG Mark (Schadstoffgeprüft-Zeichen) can only be awarded if a company has been ISO 9001 certified. It is Germany based organisation.

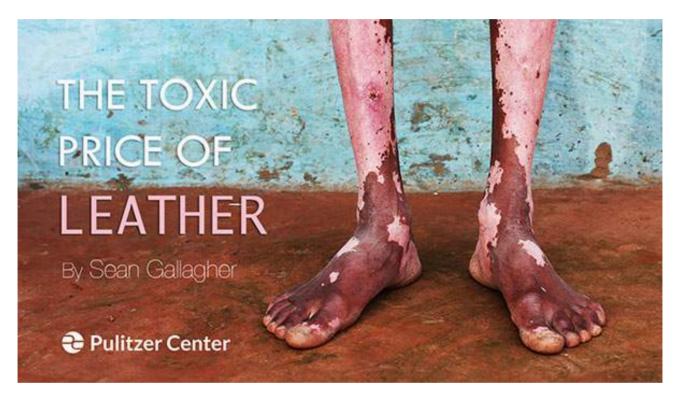
Eco-labels promote economy and support both sustainable production and consumption. Thanks to transparent ecological criteria, consumers can make conscious choices, without compromising on the quality of the products. Similarly, the eco-label rewards those manufacturers who choose to design products that are durable and repairable, promoting innovation and saving resources in many countries.

Source: http://ec.europa.eu/environment/ecolabel/documents/factsheet_footwear.pdf http://www.svanemerket.no/Documents/Kriterier% 20mm/tekstiler%20criteria-english.pdf https://www.blauerengel.de/en/products/business /leather/leather http://www.eco2lleather.com/en/guideline/,https://www.environme ntalchoice.org.nz/assets/Specifications/ec-31-12textiles-skins-leather-specification.pdf, http://www.geca.org.au/media/medialibrary/2016/ 07/Textiles_and_Leather_TLv3.0-2014.pdf, http://www.lei.or.id/tentang-sertifikasi-lei, http://www.leathercouncil.org/ecotoxlabels.htm, https://www.oeko-

tex.com/en/business/certifications_and_services/le ather_standard/leather_standard.xhtml http://www.eco-institut.de/en/







Source: "The Toxic Price of Leather" is a short film from Sean Gallagher which shows the ecological and human tragedy. https://www.youtube.com/watch?v=CMBIG0UazrA

The Environmental Information System acronymed as ENVIS was implemented by the Ministry of Environment & Forests by end of 6th Five Year Plan as a Plan Scheme for environmental information collection, collation, storage, retrieval and dissemination to policy planners, decision makers, scientists and environmentalists, researchers, academicians and other stakeholders.

The Ministry of Environment and Forests has identified Consumer Education and Research Centre (CERC), Ahmedabad, as one of the centers to collect and disseminate information on "Eco-labelling and Promotion of Eco-friendly Products". The main objective of this ENVIS Centre is to disseminate information on Eco products, International, and National Eco labeling programs.

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