**REVIEW PAPER** 

FASHION INDUSTRY



# Veganism: An Emerging Business Opportunity in the Global Market – A Review

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# Abstract

**Background:** For thousands of years, veganism has been a part of Indian culture, with deep roots in religious and philosophical thought. A growing awareness of health and environmental issues is now motivating a larger proportion of people to turn to veganism, from diet to business. In addition, the textile industry is shifting towards sustainability due to the negative effects of synthetic and fossil-based materials.

**Purpose:** This review explores the historical and cultural significance of veganism and examines the environmental and health impacts of effluents from the textile industry. It highlights the shift towards sustainable textile practices and presents ecology-friendly alternatives that gain increasing international recognition.

**Methods:** The research has used a qualitative approach. Literature studies have been made related to veganism, sustainable textiles, and the environmental impacts of synthetic materials. Case studies and industry analyses have been done in order to understand the acceptance of sustainability in the Indian textile industry.

**Results:** The study found that veganism is increasingly relevant in addressing modern environmental challenges. The Indian textile industry is transitioning to sustainable practices, with plant-based and biodegradable fibers emerging as promising alternatives to synthetic materials, helping reduce pollution and combat climate change.

**Conclusions:** This emergence of veganism and sustainable practices means that the industry transforms to more ethical and socially responsible consumerism. More awareness about various environmental and ethical concerns affecting the traditional fashion industry has upped the demand for this cruelty-free alternative.

**Keywords:** Adapted clothing, Adaptive design, Disability, Fashion Industry, ethnographic objects

# 1. Introduction

Since ancient times, genuine leather has become an important part of human life. It is a natural and recyclable material utilized by humans for a long time [1]. Before the invention of textiles, animal skin was believed to be the only material used to protect the body. The fact that leather is flexible and shares some qualities with wearable textiles explains why it was a good choice [2]. Although genuine leather shares the flexibility of wearable textile materials, it has certain drawbacks. Skin made up of collagen, a protein essential for maintaining tissue structure and skin formation, leather is vulnerable to microbial degradation and staining. These characteristics can significantly shorten its lifespan [3, 4]. In addition to that, it is an expensive material [2]. Nowadays, people are becoming more concerned about the

environment and human health. They began considering the effect of the toxicity of the production of genuine leather, such as the tannin procedures, on the environment and human health, and the material they used to enhance their appearance [5]. Furthermore, the issues connected with animal cruelty are also unacceptable [6]. Conversely, the constitution has promoted the principle of sustainable development, encouraging industries to prioritize human, animal, and environmental well-being throughout their production processes, whether in textiles or leather manufacturing [7, 8]. This prompted environmentally conscious individuals to seek alternatives to natural materials by developing synthetic options that not only offer similar properties but also aim to minimize environmental impact. As a result, artificial leather was introduced. However, the challenge with artificial leather is that, although it addresses the issue of animal cruelty, it is made from chemicals that pose environmental risks similar to the tanning process. Consequently, a new era of vegan materials has emerged, utilizing eco-friendly components alongside natural materials to create sustainable alternatives [9, 10].

'Veganism' is a popular term these days. It is an ideology/phenomenon that believes in eliminating any type of animal exploitation and inhumanity for food, clothing, or any other purpose by developing cruelty-free alternatives for the growth and benefit of the environment and humans. Moreover, the vegan philosophy does not allow to use of animal derivatives such as wool, yarns coated with bee wax, silk, fur, etc, since they involve animals or use animal products in some manner either during the production or during the finishing process. Besides vegan cuisine, vegan fashion is also popular in the present market [11]. People are getting increasingly concerned about animals and the environment. As a result, the demand for animal-free goods is growing by the day. Furthermore, because of its popularity, manufacturers are currently focused on the creation of cruelty-free materials/fashion [12]. The best examples of vegan materials are leather, vegan silk, etc. The most important advantage of vegan material is the absence of animal products both in the composition of material from fiber to fashion throughout the production process. Apart from being vegan, these materials have a plethora of good qualities [13]. Vegan fashion can be produced from natural materials such as plants, leaves, fruits, vegetables, bio-waste, agriculture, etc., and manmade materials such as bio-plastics, minerals, eco-friendly chemicals, etc., depending on the end use [14, 15, 16].

Vegan business in the textile industry in India is gaining attention and importance. There is a growing interest in understanding the factors that influence Indian consumers' intention to purchase organic apparel [17]. Textile firms in India are also recognizing the need for sustainability and are adopting sustainable business practices [18, 19]. Green marketing and advertising are being explored as strategies to make businesses more environmentally friendly [20]. Green supply chain management is gaining popularity in India as organizations strive to demonstrate their commitment to sustainability. In the garment manufacturing sector, there is a focus on green manufacturing, green training, and green innovation to address environmental concerns [21]. These studies highlight the importance of sustainability and environmental practices in the textile industry and new developments in the textile business in India.

### **1.1 History of Veganism**

In India, veganism has been practiced since ancient times. A quote from the holy text "Bhagvat Geeta" truly portrays the historical roots of veganism in India: "When you feel the suffering of every living thing in your own heart, that's consciousness." Around 500 BCE, the less restrictive form of veganism, which is vegetarianism, was introduced by the Greek philosopher Pythagoras to favor animal rights. Veganism was also claimed to be practiced by ancient Indians and eastern Mediterranean cultures. Furthermore, Indians who profess Buddhism and Jainism have been vegan for millennia, and Hinduism also believes in a vegetarian diet because various animals are regarded as deities. Mr. Donald Watson, an animal rights activist and co-founder of 'The Vegan Society,' originated the term "vegan" in 1944. In 1969, Israeli migrants moved to Dimona, Africa, subsequently known as African Hebrew Israelites of Jerusalem. The village was eventually named the 'Village of Peace' [22, 23].

### **1.2 Fashion and Environment**

With a global value of more than 2.5 trillion USD and over 75 million employees, the fashion sector is an essential aspect of our economy. The sector has undergone extraordinary expansion in recent decades, with apparel manufacturing more than doubling up to the present [24]. While the fashion and garment industry are a major revenue generator, it also poses significant challenges to global development. It is the second-largest consumer of water, responsible for 20% of worldwide wastewater production. For instance, producing a single cotton shirt requires 2,700 liters of water, equivalent to the amount a person drinks over 2.5 years. The textile industry contributes to 10% of global carbon emissions, while cotton farming, despite occupying just 3% of the world's agricultural land, uses 24% insecticides and 11% pesticides. In terms of waste, 85% of textiles end up in landfills, amounting to 21 billion tons annually. Beyond environmental concerns, the fashion industry is also deeply intertwined with labor, gender, and poverty issues, employing one in every six people globally, with women representing 80% of the workforce throughout the supply chain [25].

As reported by UNECE at one of the international conferences in Geneva in 2018, the fashion business currently has a considerable effect; it is expected to grow considerably more in the future decades. In comparison to 2000, the average consumer today purchases 60% more clothing items, yet each garment is kept half as long, and 40% of the stuff in our closets is never worn. The global middle class will number 5.4 billion by 2030, up from 3 billion in 2015. This will raise demand for clothing and other commodities associated with middle-class lives. If present consumption trends continue, there will be three times as many natural resources required by 2050 as there were in 2000 [25]. Furthermore, with factories in Asian countries, fashion items are still produced using coal-fired power, which contributes to our global carbon footprint. Expect to see a substantially less severe impact on the environment, greater animal welfare, and vegan fashion accessories and ensembles that look just as beautiful, if not better, than the animal equivalent as misconceptions are exposed and more manufacturers delve into a vegan-based product line [4, 26].

# **1.3 Need for Vegan & Sustainable Fashion in the Market**

Although the fashion industry is a major revenue generator, the demand for sustainable materials has become a primary concern for both manufacturers and consumers. Animalderived materials can pose risks to human health and harm the environment. Animal products like leather, fur, skin, and feathers significantly contribute to climate change, with cow leather having an environmental impact ten times greater than that of synthetic alternatives. Moreover, acquiring these resources often comes at the expense of animal life [27].

# 2. Objectives of the Study

The objectives of this present review are to explore the principles, benefits, and cruelty free changes associated with adopting a vegan lifestyle. The present review paper has examined the environmental, ethical, and health implications associated with veganism, underscored by an increasingly contemporary significance in sustainable practices. Further, the paper aimed to look into advancements in vegan alternatives, within the textile sectors, to implement a more sustainable future.

# **3. Methods and Material**

### **3.1 TENCEL Luxe Vegan Silk Collection**

Leading Indian designer J.J. Valaya recently produced a collection under the brand name JJV, among all clothing made from TENCEL Luxe vegan silk. It appears to be an average collection at first glance, but it is a one-of-a-kind collection created by TENCEL Luxe vegan silk. The collection was unveiled during Mumbai's FDCI x Lakme Fashion Week. TENCEL Luxe Lyocell filament yarn is made from biodegradable wood and is produced in a closed-loop process. The resulting yarn is silky smooth to the touch. So far, the JJV collection is regarded as the most opulent substance. Following the launch of this collection, TENCEL became a viable alternative to silk for some manufacturers. They have begun using TENCEL in a variety of applications other than cloth, such as lining, eco-friendly shoe rings, etc [28].

# 3.2 Leather Made of Upcycled Hemp Waste Materials

Recently, a German business called 'Revoltech' created a revolutionary solution for artificial leather. Lucas Fuhrmann, Julian Mushövel, and Montgomery Wagner formed Revoltech in 2021. The seed investment of seven figures will be utilized to enhance operations and expand production of the sustainable cloth. Utilizing the synergy of nature, science, and technology to tackle environmental issues, they created an innovative textile material that is both eco-friendly and gentle on the skin. They have given the material the title LOVR. The material is manufactured from leftover hemp fiber - agricultural waste and is completely biodegradable and plastic-free. According to the revoltech's proprietor, the company was founded to cultivate hemp plants for CBD products, and intending to produce sustainable textile materials; they began utilizing crop waste as the foundation for LOVRvegan leather. Furthermore, they have said that this material has a low carbon footprint and will play a significant part in combating climate change and conserving the environment [29].

### 3.3 Vegan Puffa Coats with Faux Down

One vegan e-magazine featured another notion of vegan stuff. In an interview with an e-magazine, a Germanbased streetwear label, Alife G Kickin' announced their autumn/winter collection featuring vegan puffa jackets using artificial down (thermal insulator or padding') and materials that can be recycled, with an emphasis on "100% vegan fashion - from the label to the zipper." According to PETA, to obtain bird feathers to produce coats, duvets, and other products, birds, particularly geese, are mercilessly slaughtered and their feathers are pulled alive. They are constantly pinched and their feathers ripped. These geese are either left to die or have their wounds stitched with needle and thread without being sedated.

The brand has developed a long-term, high-impact solution by replacing animal down with synthetic down such as polyester, which is known as pearl padding. They've also replaced animal-derived fabrics like silk, wool, and leather with more environmentally friendly alternatives like organic cotton, recycled nylon, lyocell, and polyester. These initiatives benefit not just the environment but also living beings [30].

### **3.4 FIQUETEX**

Mr. Alex and Gabriel Moreno, a father and son team, have developed a non-woven leather material named 'Fiquetex' from the fique plant, which grows abundantly in Colombia. The company's goal was to provide renewable materials that were both economical and skin and environmentally friendly to support future generations. The team discovered that the potential of the fique plant and too many plants were being wasted during cultivation, which is how the concept of fiquetex was born. Fiquetex manufactures non-woven fabrics and leather materials to provide innovative solutions to sustainability. Fique Fabric is a visually appealing textile that is both long-lasting and cost-effective. It may be used for a variety of reasons, including packaging, eco-friendly tote bags, and even outdoor agricultural use. On the other hand, fique vegan leather is a versatile and long-lasting substitute for bovine and artificial leathers. It has the same style and look as animal leather but without the harmful environmental impacts. Material is also approved by 'PETA-Approved Vegan' [31].

### **3.5 Fleather: Vegan Leather from Upcycled** Temple Flowers

In 2017, Mr. Ankit Agarwal and Prateek Kumar established Phool, an Indian biomaterial company, in the Kanpur District. The company's goal is to reuse unwanted floral debris from temples which are used for devotion and then thrown into the Ganga. These blooms emit harmful substances that contaminate the sacred water of the Ganga, affecting not just human health but also animals and the ecosystem. Knowing that bacteria convert flowers into leathery material, Phool started using these wastes to manufacture a flexible textile material, namely leather, in 2021. This is a true example of a vegan leather alternative to fake leather. 'Father'-floral leather- is a flexible textile that contains chitin, a protein that gives the material the same delicate silky feel as skin leather. Not just leather, Phool converts flower waste into incense sticks (charcoal-free), oily fragrances, etc, and generates valuable employment for the hundreds of families and especially female 'Flowercyclers' around the area.

Fleather was awarded PETA India's Best Innovation in Vegan Fashion Award in 2021, and it was just named a finalist for the 2022 Earth shot Prize, which recognizes enterprises' environmental efforts.

To date, Phool has created and successfully manufactured a variety of fashion prototypes, ranging from wallets to shoes, using its cruelty-free alternative, which the business claims will disrupt the worldwide leather industry. Feather is part of a growing trend of cruelty-free and sustainable materials aimed at addressing the world's most critical environmental issues, including pollution and biodiversity loss [32].

Desserto, Pinatex, Boobamara, Vrote, Numero 52, Jo Casal, La Sebastiana, Animalista, Hesed, M. Valentina, Corazone Vegano, Lahay, Loly in the Sky, Pulaski, Carmona Collection, Insecta, Mari Mada, and others (brands and manufacturers) have begun to use vegan leather as fake material. [33]

# 4. Conclusion

In conclusion, the rise of veganism and sustainable practices in the fashion industry represents a significant shift towards ethical and environmentally conscious consumerism. With growing awareness about the impact of traditional fashion on animals, the environment, and human health, there has been a surge in demand for cruelty-free and sustainable alternatives. The history of veganism dates back to ancient times, with roots in various cultures and philosophical ideologies. Today, the movement has gained momentum globally, with individuals and businesses embracing vegan principles in various aspects of life, including fashion. The detrimental effects of traditional fashion on the environment are well-documented, from water pollution to carbon emissions and resource depletion. Moreover, the exploitation of animals for materials such as leather and fur raise ethical concerns. In response to these issues, innovative solutions and sustainable materials have emerged, offering viable alternatives to conventional fashion materials. Recent vegan and sustainable fashion advancements showcase the creativity and ingenuity of designers and entrepreneurs. From TENCEL Luxe vegan silk to leather made from upcycled hemp waste materials, these innovations demonstrate the feasibility and desirability of cruelty-free and eco-friendly fashion options. Furthermore, initiatives like Phool's Fleather, which repurposes floral waste from temples into a leatherlike material, exemplify the potential for positive social and environmental impact through innovative business practices. As consumers become increasingly conscious of the environmental and ethical implications of their purchasing decisions, the demand for vegan and sustainable fashion is expected to continue rising. This shift represents not only a change in consumer preferences but also a transformative movement towards a more compassionate and sustainable fashion industry.

#### **Authorship contribution**

Ms. Megha Gohil: Conceptualized the review, conducted the literature search, and drafted the first draft. Responsible for the review of the major findings and summarizing the information regarding historical and theoretical considerations, formatting, and ensuring adherence to journal guidelines.

Prof. Madhu Sharan: Finalized the manuscript, assisted in the analysis of contemporary research trends, and provided critical insights on the practical applications and implications, also assisted in editing.

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### **Conflict of interest**

The authors declares that there are no conflicts of interest writing this review paper.

#### **Similarity Index**

I hereby confirm that there is less than 10% Plagiarism was achieved in this review paper.

#### Data availability statement

All data supporting the findings of this review are included within the article and its supplementary materials. Additional information is available from the author upon reasonable request, ensuring transparency and accessibility.

#### Declaration

Authors hereby declare that the research review titled Vegan: As an Immerging Business in the Global Market is their original work and has not been submitted or published elsewhere. All sources used have been properly cited, and any external contributions have been acknowledged.

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