

Sustainable Eco Textiles and Eco labels: A Review

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Abstract

It is a distinguished concept that textile and fashion industry has a detrimental influence on atmosphere. And as the industry is growing manifold the environmental damage is also increasing. The buying behavior of people have changed. The average number of clothes purchased by people has increased manifold. As per the data shown by Mckinsey& Company the quantity of garment made yearly has become twice since 2000 and surpassed 100 billion quantities for the first time in year 2014.

. Manufacturing process of these textiles uses lot of chemicals while processing which are truly damaging to the people and environment. The production process including pretreatment to dyeing and finishing uses lot of chemicals ultimately which swells into our environment and pollutes it.

Water, air and solid waste pollution are the major environmental pollution created by the textile industry.

Textiles outed as an unsustainable product as its entire life cycle from cultivation of raw material and during manufacturing process it creates lots of toxic wastes and greenhouse gases all is dangerous to atmosphere .An integrated pollution control strategy is required to protect our environment from these impacts. Fortunately, more replacements are available. As current practices are unsustainable, textile industry has a strong effect on the environment; businesses, environmentalists and customers are considering strategies to reduce the carbone footprint of textiles. Therefore the need of an hour is to focus on ecofriendly textiles like jute, Hemp, organic cotton, Soy silk, Inge corn fiber, Bamboo etc. for producing Eco – friendly products.Also governments are promoting the concept of Eco Labels. Eco labels are the hallmarks of approvals specified for the product for being less environmentally harmful. Eco-labels that indorse the “eco-friendliness” of the textile product are now graduallyrequired by clients.

The industry needs to be more sustainable, the big brands should start sustainable practices in manufacturing to save our environment and future generations. This paper explores about the eco-friendly textiles and eco labels used in textile Industry for environmental health.

Keywords: Eco Friendly fibers, Eco labels, Textile industry, Sustainable environment, Carbon Footprints.

Objectives

The main drive behind this research paper is to study about the ecofriendly textiles, and eco labels used for making these products less environmentally harmful. The foremost motive of the study is to increase awareness about ecofriendly textiles and eco labels so consumers buy environment friendly products which in turn will force the textile industry to adopt environment friendly practices and methods.

Also the objective is to nurture consciousness about the use of ecological materials in the product life cycle among textile fashion companies and other members of the entire value chain of fashion products. The paper shows Eco fibers and eco labels studies and research. This research will give a view of the exceptional applications and uses of these sustainable fibers to gain the competitive edge on the market. It helps designers and businesses to shift their mindset and create new products with the vision and objective of sustainable development.

Introduction – It is a well-known concept that fashion and textile industry is one of the world's most polluting industry. The planet has a huge impact by the pollution created by the textile industry, citing multiple causes mainly the buying behavior of consumer has changes in recent times with the inclusion of the concept of fast fashion.

In 2015 the total textile consumption was 95.6 millions of tons, as per the data provided by Lenzing group.

The production phases of textile contain bleaching, dyeing etc... Contribute to a great amount of toxic waste thus creating it significant to make it more sustainable. To make the product toxic free it's important but it's also imperative to control pollution. [1]. It's a need of an hour to protect our atmosphere from our detrimental impact some preventive and effective measures needs to be taken. It's well understood that each consumer products has an influence on our environment. Nevertheless there is a lack of awareness among consumer towards ecofriendly products and also about the life cycle of the product. So what are the solution for safeguarding our environment? There are plenty of solution to mitigate these problems. For sure the first step lies in building awareness among the consumer and willingness to change. Choose garments made in those countries who follows stricter environmental regulations for textile factories. Choosing organic ecofriendly fibers made product which does not uses chemicals in processing. Eco friendly clothing is used for clothing and products using natural fibers such as organic cotton, hemp, bamboo, organically dyed with natural dyes using small amount of water, energy and chemicals not harmful to environment.

Therefore, those goods and services which do not harm the environment are termed as eco-friendly. "Think globally, act locally" is the slogan of tomorrow for the world textile industry. [2]

For a product to be "green", it must be ecologically responsive all the way through its production cycle, through usage and care, till its disposal. [3]

Now a days garments with Eco labels to help the consumers identify environmental friendly products.

Ecolabels are hallmarks of approval given to products that are considered to have smaller amount of effects on the environment. [4] The main objective of ecolabelling is to promote the production of sustainable and environment friendly products and also to make aware the consumers to check for these labelling before buying goods.

Ecolabels normally depend on on life-cycle assessment to determine the environmental influence of a product 'from cradle to grave. [5]

Eco labels on the garments ensures that products comply with standards based on social, ecological and environmental standards. In textile field there are 41 labels are there for certification (Ecolabelling 2008) and almost as per the data 9000 textile manufacturing companies have been certified. The aim of the research is to find out the main eco fibers and eco labels used in industry.

Literature Review

People and system of government have been analyzing the effects of the textile industry on the environment. Bergman provides their research from wool to organic cotton garments. All of their recommendations are focused on consistency and functionality, according to Stephen Bergman (Director Bergman AB). Although their findings aren't very trendy, they are very plain and basic colors, but they tried to make fashion products in the future. Their first collection was already released in 2007. The whole business concept is represented by Bergman AB store in Borås, Sweden. (The Borough of Bergmann 2010) The scientists restricted their study to organic cotton and bamboo fibers during research work on sustainable materials. Today there are a number of natural, renewable fabrics available for use in textiles, but these fibers have a wide variety of applications with premium quality, and that we have chosen them with functional fibers that have exceptional properties that fit into all textiles products and add values to company products. As per Kunz and Garner (2011) says that all the stake holders of apparel and textile industry should play the key role in environmental sustainability as textile mills, apparel manufacturers, retailers and consumers. In a consumer study it was found that people want the apparel companies to be more responsible and clear with everything they do along with rational wages and sustainable working atmosphere. It has been noticed that textile and apparel industry has lot of issues which needs to be handled. Some social concerns are also there " forced labor, gender discrimination, low wages, long operational hours, fitness and security issues, physical and mental abuse, lack of workforces alertness of their rights etc.(Dickson et.al.2009p.6.).

Eco Fiber Market Size, share and Trend Analysis

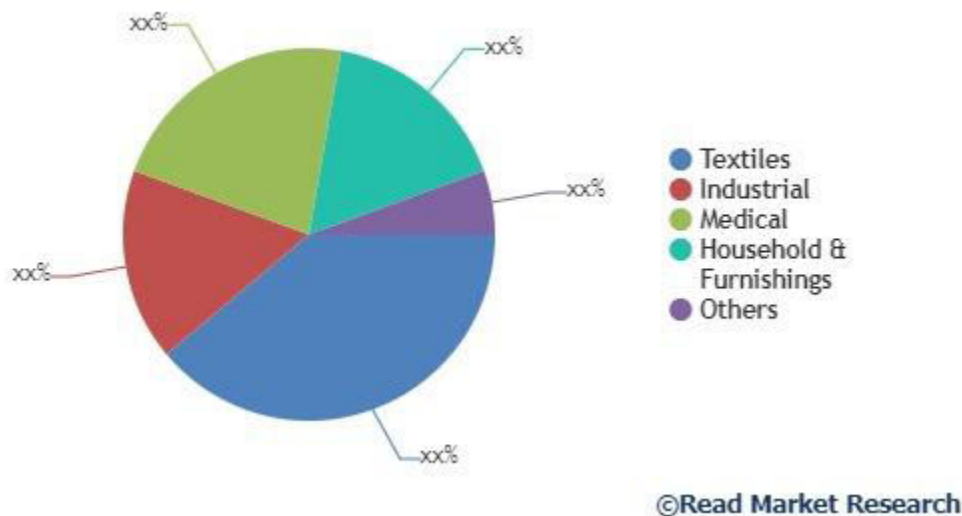
The consumption of eco fibers has increased many folds and is expected to increase exponentially. The major contributing factors are increased awareness, rising concerns about harmful environmental impacts of synthetic fibers.

As the production of synthetic fibers uses lot of chemicals in manufacturing, so there has been a decrease in its consumption. It has been noticed that there is a rising awareness regarding the environmental pollution and social aspect of the sustainable textile production which in turn is fueling the demand for eco fiber across the globe

As consumption of fashionable apparel and garments are expected to grow due to emergence of e - commerce portals, which will increase the consumption of apparel giving the boost to the market.

The global eco fiber market is expected to reach USD 135.5 billion by the end of 2026, growing at a CAGR of 10.8 % between 2018 and 2026.

Global Eco Fiber Market Share by Application (2020) (%)



Source- <https://neighborwebsj.com/>

Asia pacific region followed by North America and Europe are the biggest market of Eco Fibers.

The worldwidemarketplace share of Asia pacific was 38% in 2017 and is projected to grow 50% by 2026.The major Eco fibers in the market are organic cotton, flax, hemp, jute, sisal, abaca, and bamboo, recycled fibers , regenerated fibers .

There has been a rapid demand of sustainable textile fibers such as organic cotton, flax, hemp, jute, sisal, abaca, and bamboo which in turn is boosting the global Eco fiber market. Now consumers are more aware about the environmental damage caused by the

conventional fibers which has become a prime motive behind the driving force for this market of eco fibers

Eco labels –

Eco labels used in textile industry gives us the brief information on the environment related quality product.

Ecolabels are marks basically placed on product to help the consumers to identify that the product meet specific environmental performance criteria, which is not harmful for the atmosphere. Eco labels permits customers to recognize products that are environmentally harmless, manufactured using eco-friendly ingredients and do not comprise compounds that are damaging to the consumer. The main purpose or criteria for using eco labels is based upon life cycle analysis of the product. Cradle to grave approach is the basis which is used to identify what kind of raw materials are used, production methodology, packaging and transportation, use of the product by consumers and how it is disposed.

Eco mark criteria –

The products that come up for certification will be assessed for the following main environmental impacts:

1. They have considerably fewer potential for contamination when compared to similar products in terms of usage, production, and disposal.
2. They are made from biodegradable materials and can be recycled.
3. They make a substantial impact towards preserving non-renewable resources.
4. They must subsidize the adverse environmental impact associated with the product's use.

Organizations involved in Ecolabelling Schemes

Good Environmental Choice (Sweden)

Öko-Tex (EcoTex) 100 (Germany)

EKO-Seal (Holland)

Environmental Choice (Canada)

Eco-Mark (Japan)

Green Mark (China-Taiwan)

Eco-Mark (Korea),

Environmental Labelling (China)

Eco-Mark (India).

Eco mark – Eco labelling in India

Bureau of Indian standards (BIS) is the main body who issues the certification mark in India named Eco mark for those products who are ecologically safe and adheres to the laid down standards. The Ministry of Environment & Forest (MoEF), Government of India is responsible for introducing eco labelling scheme in 1991 by a resolution. The resolution

says that products that meet the recommended environmental principles, as well as quality standards set by BIS, will be issued the ECOMARK label. In India Eco labelling is a part of environmental policy. . “Eco labelling” is a technique of environmental performance certification and labelling that is practiced around the world.

An earthen pot is the logo of Eco mark scheme in India. The main reason for using earthen pot is to show about the renewable nature of the earthen pot which is made by using very little energy, does not produce hazardous waste.

Its rock-solid and elegant form signifies both strength and delicateness, which also describes the eco-system.

Eco Labels Used across world



Source - <https://www.slideshare.net/nega2002/eco-fibres-and-eco-friendly-textiles-2>

Eco Friendly Textiles and Eco Labels in Textile Industry

The textile industry is one of manufacturing industry's lengthiest, utmost diverse and complex industrial chains with the biggest offenders of pollution. It includes components from the agricultural, dyes, chemical, garment, clothing, retail and service sectors and wastes processing industries. In recent years ecological problems, particularly for the

textile and apparel industry, have become increasingly significant, an industry which is not known for environmentally friendly products. Toxic materials that damage the environment are released by each textile products. The conventional textile industry consumes a significant amount of natural resources and contaminates the atmosphere, as its manufacture and processing requires chemical-intensive procedures. Pollution control is so important that a product need to be freed from the harmful effect during manufacturing processes. Clothing radiation has increased the rapidly depleting forests to create renewable natural fibers, such as organic cotton, hemp and bamboo fibers. Oil products are environmentally damaging. To protect the environment from these negative impacts, an integrated pollution control strategy is required. It's a need of an hour that textile industry should focus on environmental protection issue. So using eco fibers and eco labelling is the step needs to be taken as war front level. Although ecolabel ling is still under developing stage and also lot of organizations are their offering eco labels. Eco mark is one such label offered by Indian government but it too was not much successful. Even lack of consumer awareness is there. So attention needs to be on many fronts as first government must play a proactive role in setting standards and to make it implemented. Also there is need of consumer awareness regarding eco labels. And at at last the textile industry should focus on eco-friendly textiles production having an ecolabel on the products.

Conclusion

As we are aware of the harmful effect of the synthetic textiles, so it's obvious that eco textiles are the future of the fashion and textile industry. It is important to create awareness at the grass root level and need to be more socially responsible by adopting good practices. Ethical practices needs to accept widely by society for preserving and promoting the nature for a better community and society. People are becoming more aware about the Eco textiles and also its gaining importance in market. People look for the environmental friendly product before buying. Eco labels is also a solution for safer environment. The textile industry also needs to take initiative and stop using harmful chemicals to save the environment. One cannot be ignorant towards the nature. If we want to survive we will have to save our earth for our future generations from greenhouse emissions and solution is definitely eco fibers and eco Labelling needs to implemented on war front level across all levels of production , packaging, finishing, transportation and its disposal.

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