



Sustainable Fashion: The Issues, Challenges, and Prospects

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ABSTRACT

Fashion industry has encountered several sustainability challenges, categorised as environmental, employment-related, and social. Issues such as, engaging bonded labour, child labour and using non-biodegradable ingredients leading to pollution of ocean and land surfaces, and degradation of soil and deforestation-related problems, have been some of the significant challenges for the industry. Today's consumers and regulatory authorities are more aware of such sustainability challenges, glaring at the fashion industry and the concept of fashion, resulting into increasingly changing habits and lifestyle, in terms of consuming fashion. This has propelled the fashion companies to initiate and adopt the idea of sustainable fashion. The fashion industry has had to re-assess the potential value-addition from adopting and practicing sustainability for their businesses, when embedded directly at the core of the company's value proposition and consistently throughout the company's supply chain. It will also lead to reduction of costs as more audited results will become the basis for budget allocation for sustainable business practices in future for these companies in this sector. Such a scenario will usher in more sustainable and humane practices in the fashion industry creating a win-win situation for all relevant parties concerned. The present paper makes an attempt to look at the various issues, prospects and challenges of sustainable fashion.

Keywords: *Sustainability; Fashion industry; Environment; Sustainable fashion.*

1.0 Introduction

Fashion is a term that expresses the popular choice in clothing, footwear, lifestyle, accessories, makeup, hairstyle and body proportion, at a given time (Kaiser, 2019). The fashion industry has gained its momentum in Europe and America, in the yesteryears. However, today, this industry is an international and highly

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globalized industry. Revenue in the Fashion industry amounts to US\$597,321million in 2019, with an expected annual growth rate (CAGR 2019-2023) of 11.5%. The fashion industry market volume is predicted to be of US\$922,005 million by 2023.

In this, Apparel segment is the largest one with a market volume of US\$386,394m in 2019. Globally, China generates the highest revenue for fashion industry (US\$281,979 million in 2019) (<https://www.statista.com/outlook/244/100/fashion/worldwide>). In 2016, the global fashion industry experienced over €200 billion turnover, twice as big as the computer and electronics sector (Euratex – 2016 Report) It is the one of the biggest manufacturing sector in Europe (Meri & Bacharach, 2006)) and represents 40% of all manufacturing jobs in South Asia (Lopez-Acevedo & Robertson, 2016). The fashion industry employs over 300 million people across the value chain (A new textiles economy: Redesigning fashion’s future – Ellen MacArthur Foundation, 2017).

Fashion industry may be divided into four segments:

- The production of raw materials, principally fibres and textiles, but also, leather and fur
- The production of fashion goods by designers, manufacturers, contractors, and others
- Retail sales
- Various forms of advertising and promotion

The above segments consist of various sectors, such as, textile designing and production, fashion designing and manufacturing, fashion retailing, marketing and merchandizing, fashion shows, media and advertising, and so on (<https://www.britannica.com/art/fashion-industry>).

Fashion industry has confronted with several sustainability challenges, categorized as environmental, employment-related, and social. For example, natural and synthetic fibres, which are used as raw material for fashion production, consume a substantial amount of water and energy in the production process. Also, fabric chemical processing needs large quantities of chemicals, auxiliaries, energy and water, thus, leading to the generation of significant amount of effluent. This results into significant negative and harmful environmental impact. Again, substantial amount of water and energy are consumed for the care and maintenance of clothing during their use. Last, but not the least, at the end-of-life (EOL) of the fashion and textile products, the options of landfilling or recycling create environmental impact (Badani et al, 2005). Again, various issues related to employment in the fashion industry are also posing challenges for the people working in this industry, in terms of absence or lack of living wage, long working

hours, inappropriate working conditions, irregularities in the employment contract and compensations and lack of welfare. Finally, there are several social issues, which need to be addressed by the fashion industry, at war footing. Such issues include slavery in modern era, forced and bonded labour, human trafficking, child labour, and so on.

Today's consumers are more aware of such sustainability challenges, glaring at the fashion industry and the concept of fashion, thus, resulting into an increasingly changing habits and lifestyle, in terms of consuming fashion (Trend report future of sustainable fashion, Accenture & H&M Foundation Report, 2017). Cotton Council International and Cotton Incorporated Global Environment Survey reported that sustainability is a high priority for consumers in countries such as, India (81 percent), Mexico (69 percent), Italy (62 percent), and China (60 percent) [<https://lifestylemonitor.cottoninc.com/sustainability-concerns/>]. This has propelled the fashion companies to initiate and adopt the idea of sustainable fashion.

The present paper makes an attempt to look at the various issues, prospects and challenges of sustainable fashion.

2.0 Sustainability in Fashion

Brundtland World Commission on Environment and Development (https://en.wikipedia.org/wiki/Brundtland_Commission) has defined sustainability in the context of development, that meets the needs of the present without compromising those of the future. This encompasses the environmental, social and employment issues, in the process of production, marketing, selling the fashion products. Research reveals that, due to change in the consumers' preference and awareness towards sustainability, fashion industry has started paying more attention towards sustainability measures (Henninger et al. 2016). This resulted into the concept of 'sustainable fashion'. The term 'sustainable fashion' is used synonymously with the terms, such as, 'eco-fashion' or 'green fashion' or 'ethical fashion' or 'slow fashion' (Khandual & Pradhan, 2019). "Sustainable fashion broadly refers to the design, production, distribution, consumption, and disposal of apparel with respect and consideration for the health and longevity of our natural environment, and the welfare of the animals and humans involved" (Petrow & Leemann, 2018: 18). Essentially, this needs attention to promote sustainability in the context of environment, society and employment. The significant sustainability challenges faced by the fashion industry are discussed below.

3.0 The Sustainability Challenges in Fashion Industry

There is a growing trend among the new generation of consumers to buy eco-friendly products and they are at the same time interested to know how such products are manufactured and who is involved and so on. They prefer to go with companies who make eco-friendly products and are consciously adapting environmentally-friendly practices and processes and take corrective measures to minimize their impact on environment, while producing such goods. Rather than opting for mass produced clothing, these customers are interested in moving towards sustainable clothing and apparel- ‘everyone has one’ – fast fashion. Therefore, retailers, such as, Everlane, Adidas and H&M are building their brands around social transparency and they are sharing the names and addresses of their manufacturers, subcontractors, and fabric/yarn suppliers known to the public (<https://www.k3software.com/post/2019/01/14/sustainability-in-the-fashion-industry-a-challenge-for-2019>).

3.1 Environmental issues

After the oil industry, fashion industry ranks second, in polluting environment. Ellen MacArthur Foundation has opined that if fashion industry continues at its present growth rate, then by 2025, the textile industry would be responsible for substantial carbon emissions, resource scarcity, lack of recyclability and expectations of rising cost of some virgin materials. Hence, many companies like Patagonia and Banana Republic have sought to use costlier eco-friendly materials like Lyocell (made from wood pulp with low environmental impact) . Again, due to minimum usage of recycling technology, this sector loses 75% of value in their material usage in their first production cycle. MUD jeans have come out practices, like, leasing its products for a one-year term, with free unlimited repair services, after which the customer can change it for a new pair, while the old ones get recycled (<https://www.carbontrust.com/news/2018/03/sustainability-trends-future-of-fashion-industry/>). Some of the issues which demand urgent attention in this regard are discussed below (<https://www.sustainyourstyle.org/old-environmental-impacts>; <https://www.commonobjective.co/learn/sustainability-issues?a=19>)

3.1.1 Water pollution

Water pollution is caused by untreated water (with lead, mercury and arsenic), being dumped into rivers by textile companies. It also leads to contamination of seas and oceans across the globe. Another example is fertilizers, which are used in cotton production stands out as a major pollutant.

3.1.2 Effect on ocean ecosystems

Large amounts of post-consumer wastes, such as, plastic microfibers from polyester fabrics and artificial suede, are polluting ocean ecosystems. This enters into the food chain of aquatic life, and affects humans, consuming seafood. Cotton, which is heavily used by this sector, also leads to groundwater depletion.

3.1.3 Water consumption

Massive use of water by fashion industry especially for dyeing and finishing process, growing cotton (water intensive cropping requiring 20,000 litres of water for producing 1 kg of cotton), etc., lead to ecological imbalance.

3.1.4 Microfibers in the ocean

Every wash of a polyester or synthetic garment releases around 1900 microbes in the water invariably leading to ocean pollution. These are consumed by small aquatic organisms which are in turn eaten by small fish and who again are eaten by bigger fish leading to plastic creeping into our food chain.

3.1.5 Waste accumulation

Data shows that 13 kilograms of waste is accumulated per person on earth on an average with clothes becoming a disposable item also 72% of synthetic fibre which forms part of our clothing today are non-biodegradable. (<https://www.commonobjective.co/article/the-issues-chemicals>).

3.1.6 Usage of chemicals

In the fashion industry, 8000 different types of chemicals are used along with heavy use of fertilizers in cotton (a raw material for the industry) leading to death not only among cotton growers, but also pollution of ground water and ocean water, resulting in soil degradation.

3.1.7 Greenhouse gas emissions

Due to consumption of more fossil fuels by synthetic fibres in contrast to natural fibres, more energy is consumed, producing gases, which have greenhouse effects. China and Bangladesh are worst polluters with coal powering their fashion mills and stands out as worst contributors of carbon emissions.

3.1.8 Soil degradation

Overgrazing of pastures by cashmere goats and sheep used for wool by fashion industry degrades soil along with factors like heavy use of chemicals to grow

cotton; deforestation caused by wood-based fibres like rayon. Degradation of soil leads to non- absorption of CO₂ and poses a great threat to global food security and increase in global warming.

3.1.9 Rainforest deforestation

Indiscriminate chopping of forest trees and replantation of trees for producing wood-based fabrics like rayon, viscose and modal, threatens ecosystems and indigenous communities. Indonesia is such a case in the point where large amounts of destruction of rain forests have taken place, of late.

3.2 Employment issues

A number of concerns relating to employment are becoming a cause of concern for people employed in the fashion industry, some of which are discussed below:

3.2.1 Living wage

This industry faces a lot of production pressure due to heavy demand for goods. This leads to labour being employed at very cheap rates (below the living wages) for long hours. Due to low wages, workers are forced to work for longer time for subsistence living and daily needs' fulfilment, leading to health problems, inadequate sleeping hours, and other associated health hazards., while disallowing them to take leave when they fall ill. (<https://cleanclothes.org/livingwage>).

3.2.2 Long working hours

Most people in this sector work for more than recommended 48 hours per week (e.g.; in Bangladesh, up to 60 hours per week). The Fair Wear Foundation points out that between the years 2012 to 2015, there was excessive overtime requirements (<https://www.commonobjective.co/article/the-issues-working-hours>).

3.2.3 Irregular employment

In fashion industry, it is a common practice to employ casual labour with piece-rate work, sub-contracting and home-based working requirements. This invariably leads to job insecurity and extreme exploitation of labour force. The labourers are left in a hand- to- mouth situation with low wages, with little access to institutional credit or financial services, borrowing money from private and exploitative money lenders for family and social needs (<https://www.commonobjective.co/article/the-issues-regular-employment>). Some trends seen in this sector are given below:

- In India, homeworkers constitute 21% to 24% of all textile and garment workers

- Between 80% and 85% of women in the footwear industry work on a casual or piece-rate basis
- In Turkey, it was found by auditors that there are cases where workers are represented as daily contracts, but, in actual reality, they seem to be working in those factories on a regular basis.

(<https://www.commonobjective.co/article/the-issues-regular-employment>)

Accidents and health issues: In this industry, there are many accidents, health hazards and even death among workers. There is a need to properly track and research these cases by outside agencies to get the correct picture in the context. Data shows that 27 million workers in this industry suffer from work-related ailments, at the injury rate of 5.6 per 100 workers (<https://www.commonobjective.co/article/death-injury-and-health-in-the-fashion-industry>).

3.3 Social issues

Slavery in modern era: Data shows that 16 million people work as forced labours in private sectors, like agriculture, mining, manufacturing, which contribute towards the functioning of fashion industry (<https://www.commonobjective.co/article/the-issues-modern-slavery>). The 2018 Apparel and Footwear Benchmark survey has demonstrated that, very few global-level companies could score more than 50 out of 100 points on employment indicators, such as recruitment policies, grievance policies and so on (<https://www.thenational.ae/lifestyle/fashion/modern-day-slavery-still-exists-in-the-fashion-industry-report-reveals-1.804605>).

3.3.1 Forced and bonded labour

The Global Slavery Index shows that 45.8 million people are victims of modern slavery and bonded / forced labour in cotton producing countries like China, India, Thailand, Indonesia, Vietnam, Bangladesh and Pakistan. Hard labour is extracted from them with no regular pay, as a part of modern slavery or forced and bonded labour (<https://www.commonobjective.co/article/fashion-s-key-social-issues>).

3.3.2 Discrimination

In this industry, women form 80% of the labour force. However, they still face discrimination, by way of low wages paid to them, workplace harassment, lack of measures for pregnant women, improper facilities, underrepresentation in management/senior positions in the factories and similar types of establishments. Certain other instances of discrimination are listed below.

- As per studies by ILO in 2016, women were seen to be paid less than their male counterparts in 8 out of 9 Asia-Pacific countries like India and Pakistan in garment, textiles and footwear industries.
- A 2016 investigation into modern slavery in southern Indian spinning mills points out that those at the lower end of the caste pyramid (the *Dalits*) were the most exploited and forced into modern slavery.
- A recent study in Bangladesh has shown that only one out of four factories have a specific policy for workers with disability.
- A study showed that only 25% factories had a specific policy for inclusion of workers with disabilities (<https://www.commonobjective.co/article/the-issues-discrimination>).

3.3.3 Child labour

Organizations, such as, ‘Stop Child Labour’, have shown that, a large number of children are employed in this industry, who work for long hours, and, under dangerous conditions, for very low wages. Reputed brands, such as, Adidas, H&M and Nike are found to be engaged in these practices (<https://phys.org/news/2017-06-tackling-child-labour-fashion-industry.html>)

4.0 Forms of Sustainable Fashion

Keeping the above sustainability challenges in mind, fashion industry promotes several forms of sustainable fashion from producer and consumer perspective. They are as follows:

4.1 Custom made/made-to-order

The garment should first be manufactured on demand or custom-made, in high quality and timeless design in an environment-friendly manner. This form of sustainable fashion extends to the concept of DIY (Do-it-yourself).

Sustainable Design techniques/Production methods - Design can largely affect sustainability in fashion. There are various design methods that may be adopted by the companies for sustainable fashion production. For example, companies may recycle or reuse the rejected articles. Recycling is a chemical reconstruction of the materials to create a whole new product. Companies may also upcycle the rejected articles for producing products of greater value. This involves the conversion of thrown away objects into a product of higher functionality by reducing waste (Khandual & Pradhan,

2019). Reconstruction is another technique through which previously worn garments or finished clothing products may be deconstructed and reconstructed into new designs. Finally, zero-waste design techniques, such as, zero-waste pattern cutting, draping, smocking and plaiting help the companies in eliminating the waste at the design stage. Indian design labels, Péro has used Upcycling as a method in the collections. Studio Metallurgy, an Indian jewellery brand, had handcrafted jewellery out of plumbing washers. International design label Stella McCartney has been a pioneer in using recycled fabrics and banning leather, fur and animal-derived glues (Volga, 2019).

4.2 Promoting fairness

Providing appropriate working conditions and providing the due credits to the artisans is another way of promoting sustainability in fashion production. Urban Austral of Patagonia is a brand working with local people in Patagonia to provide fair jobs and offers 100% handmade products made up of up-cycled materials. It donates 1% to REFORESTEMOS PATAGONIA, a tree plantation organization in the area (Khandual and Pradhan, 2019).

4.3 Managing waste

It is another way of promoting sustainability in fashion. More than 60% of the fibres, that are used to produce apparel, are polyester. They look like silk, cotton, or soft faux fur, and, can be combined with natural materials for better performance and cost-effectiveness. To stand against this practice, European brand C&A aims to use polyester made from certified recycled sources instead of virgin polyester made from petroleum. Recycled ocean plastics are being used by Australian company Bombshell Bay in their swimwear line (<https://bombshellbayswimwear.com>).

5.0 Popular Sustainability Strategies

Keeping sustainable fashion as a management agenda, fashion brands, worldwide, are aiming to maximize benefits and minimize the negative impact on society, environment, employees and customers. Below are few strategies followed by eco fashion brands in current scenario:

5.1 Digital marketing (Digital Influencer Campaign)

In order to connect with their customers and convince them about the company's commitment towards sustainability, fashion companies are increasingly using social media for digital marketing campaigns. For example, WORLD boots uses social

media campaign and help its customers know about the organizations like ‘Soles4Souls’, a non-profit social enterprise that creates sustainable jobs and provides relief through the distribution of shoes and clothing around the world. The initiatives towards achieving the good for the greater society makes the customers feel proud of being associated with such brand (Kowalski 2017). However, Chadha and Ahuja (2018) have argued that, the *digital strategy differs for every brand and a variety of strategies (e.g.; user friendly website, banner ads, mobile advertisements etc)* , *may be adopted by the companies* (Chadha & Ahuja, 2018).

5.2 Alternative marketing strategy

While mainstream mass media, in general, “represent government and corporate interests” (Herman & Chomsky, 1988), alternative media tend to be “non-commercial projects, which propagate inclusions of the interest of the rest, who are excluded from the mainstream”, such as, the political and ethnic minorities, labour groups, and so on (Atton, 2002). To promote sustainable fashion in the context of inclusivity, fashion brands are taking help of alternative media, and using alternative marketing plans with more authentic and credible messages for their consumers (Vuruskan and Frohlich 2012). One such campaign was “Be Stupid”, promoted by Diesel. It implied that every individual has freedom to make ‘rebellious’ choices and respect others’ choices, even if, those are strange (<http://www.creativeadawards.com/diesel-be-stupid-advertising-campaign/>).

5.3 Giving back to the society

There are fashion brands, who donate a part of the profit for the cause of the greater good in the society. With each purchase, it helps the customer supporting a sustainability cause. SiiZU, in New York, not only uses natural fabrics to create minimal designs that can be worn repeatedly, it also donates 10% of each purchase to plant trees. Similarly, Berlin-based brand Abury started the Abury foundation, which ensures to provide fair wages and education to the community workers. Abury has given 125,982 hours of education to the communities till now (www.abury.net).

5.4 Transparent system

Companies also are making attempt to keep the consumers aware about the materials they use and the business practices they follow. For example, Svala in US participates in a carbon-offset program to help reduce our carbon footprint. Also, the company maintains a fair working condition by paying fair wage to the employees. Additionally, the brand labels and handbag dust bags are made up of organic cotton and

the packaging materials and hangtags are made with a mixture of recycled kraft and hemp paper, which promote sustainability. (www.svala.com).

5.5 Collaboration with local artisans

Fashion brands, in order to promote sustainable living of the local community, collaborate with the local artisans to utilize the local materials and methods, for the production process. Pagabags is such a brand, which supports sustainable livelihoods of the local artisans in West Africa, who use traditional batiks, mud-painted cotton, wax and non-toxic dyes.

6.0 Significant Role Players

To bring effective sustainability practices in the fashion industry, various stakeholders to this industry need to play their respective and complimentary roles, as mentioned below.

6.1 Role of governing organisations

Considering the need for governing organisations to monitor, assist and evaluate the performance of manufacturers and retailers in the context of sustainability, the United Nations (UN) has established several organisations under its control to work independently, or in association with other organisations to achieve sustainability targets.

6.2 Role of international standards organisation

International Standards Organisation (ISO) is an independent, non-governmental international organization with a membership of 164 national standards bodies. ISO plays a vital role in providing guidelines supporting the sustainability in business operations. A series of standards have been developed; for example, The ISO 14000 family of standards provides practical tools for companies and organisations of all kinds looking to manage their environmental responsibilities. ISO 26000 provides guidance on how businesses and organizations can operate in a socially responsible way. This means acting in an ethical and transparent way that contributes to the health and welfare of society (<https://www.iso.org>).

6.3 Role of manufacturers

Fashion brands, such as, Nike and Adidas are supporting eco-friendly dyeing technology to reduce waste water, chemicals, energy and toxic effluents (Yaman et al 2009). They are introducing waterless dyeing technologies, such as, Dye Coo, Colour

Zen and Air Dye in their production. This is an excellent example how the manufacturers in the fashion industry may come forward to promote sustainability. However, the cost and lack of experts in the textile industry are the hindrances to this approach.

6.4 Role of consumers

Consumers are the end-users, who have the power to refuse to buy a fashion product, if it is not manufactured with the right use of energy, resources or even the labour (Zadek et al, 2013). However, one needs to note that, while some consumers may be willing to spend more amount for the sustainable fashion items, unfortunately, others may not be ready due to budget limitations, choice and mind set (Burke et al, 1978).

7.0 Prominent Sustainable Fashion Brands Worldwide

Worldwide, a number of fashion brands have emerged that are dedicated to ethical, transparent and sustainable practices, which wish to encourage and promote ethical and sustainable alternatives to conventional fast fashion (<https://www.thegoodtrade.com/features/fair-trade-clothing>). Some of such companies are mentioned below.

7.1 Everlane

This company is based in California, USA, and promotes ethical and transparent production process, with product range from women and men's apparel, accessories to shoes. This company claims in spending months to find the best factories around the world, build strong personal relationships with factory owners, assess the ethicality in production practices. Everlane believes in customers' right to know the actual production cost and place of production of the products, which they reveal through the factory and production stories, with the customers.

7.2 Reformation

Based in California, USA, this company uses sustainable fabrics, purchases carbon offsets, pays living wages, and, as a part of inclusive policy, manufactures plus size fashion line. One of the most significant practices adopted by this company is to produce products only from sustainable and upcycled materials, while paying fair wage to the employees. It also includes a description of the environmental footprint of each product.

7.3 Able

This Tennessee, USA-based company aims to create economic opportunities for people, especially for women. Their products, such as, bags and denims are made by fairly-paid women, worldwide, who have overcome extraordinary circumstances.

7.4 Thought clothing

Based in London, UK, this company is all-natural clothing company with an objective of designing and making timeless, environment-friendly fashion, by using organic cotton and natural materials. The long-lasting relationships between this company and its factories and suppliers, entrusts that, the employees, engaged in producing the company's products, are paid fair wages and provided appropriate working conditions.

7.5 Kotn

Kotn is known for its Egyptian cotton wardrobe staples. Based in Toronto, Canada, this company creates all of their garments in a fair and safe environment, and are helping their suppliers make the switch to organic within the next five years. The company is dedicated to long-lasting fashion.

7.6 Sézane

Specialist in women's apparel, this Paris France -based company started entirely online to eliminate the middleman, focusing on zero-waste production. In 2017, Sézane started a philanthropic initiative, named DEMAIN. This aims to help disadvantaged children access education and equal opportunities, by giving back something with each purchase of its products.

7.7 Encircled

Encircled, based in Toronto, Canada, creates women's & men's apparel, that is multipurpose in design with fabrics that are as comfortable and travel-friendly as they are good for the earth. Encircled believes in slow fashion and promotes eco-fabrics, uses recyclable shipping materials and prints only on 100% post-consumer recycled paper.

7.8 Boden

This company is based in London, UK, Boden is committed to responsible sourcing, fair trade and ethical practices. Across the 17 countries, their supply chain follows environment-friendly practices. The product range of this company includes men, women and children apparel.

7.9 Matter

This Singapore-based company is born out of Banyan Tree Gallery, an artisan retailer, Matter works in association with artisans and designers to create vibrant, bold, and uniquely patterned apparel. It engages artisans across India and Indonesia to impart block-printing, natural dyes, and handlooms with everyday casualwear.

7.10 Tonlé

Based in Cambodia & California, USA, this company is known for zero waste practices, fair trade production, handcrafted products and natural dyes. This company uses reclaimed fabric for the products, and, tiny scraps to make handmade paper for their tags. This company not only promotes supportive work environment; it also encourages the employees to rise into management positions by training.

7.11 Patagonia

Based in California, USA, Patagonia has been one of the earliest proponents of environmental ethics in the active wear fashion industry. It is one of the first companies who started using recycled materials and organic cotton. Patagonia works with Fair Trade Certified factories in India, Sri Lanka, and Los Angeles.

8.0 Indian Sustainable Fashion Brands

Many of the Indian fashion brands are also sincere promoters of sustainable fashion. A few of such companies are stated below.

8.1 Ka-Sha

Pune-based company Ka-Sha is known for working towards a holistic integration of sustainability, from the materials, designing, and production to distribution. The *Heart to Haat* initiative of Ka-sha aims at zero waste generation, recycling and up-cycling materials. All products of Ka-sha are made with natural fabric and dyes.

8.2 Doodlage

The raw material of Doodlage comes from factory waste. It associates only with fair wage units. They patch together tiny scraps of fabric to create texture and recycle for buttons, beads etc. The products are packed in 100% biodegradable plastics are used for packaging.

8.3 Maga

This is a Noida-based fashion label. It uses processed organic dyes obtained from grass, onion skin, and coffee/ tea leftovers. Moreover, it is researching about incorporating leftover flowers from weddings as dyes as well. Apart from this, Maga is collaborating with village artisans to promote fair trade.

8.4 Button masala

This brand aims to engage in fashion business with absolutely no scrap fabric or stitching. Button Masala teaches people how to use fabric in multi-purpose ways, with just buttons and rubber bands, which may make individual fashion, unique. This results into zero wastage.

8.5 Nool by hand

This Tamil Nadu-based fashion brand aims to sustain the handloom sector by using 100% natural, hand-woven fabric, resulting into the lowest amount of carbon footprint. The company also supports rural communities of artisans, who have been equipped with handloom tools to perfect the craft of weaving. (<http://www.kerosene.digital/10-indian-sustainable-fashion-brands-love/>)

8.6 Upasana

Based in Auroville, Pondicherry, Upasana promotes empowerment of farmers, weavers, and dyers, by using their design and textile. This company initiated a project named Varanasi weavers, a project with the weaving communities of Varanasi, to address issues, such as, famers' suicides, weavers' job loss. Also, they have a project called Tsunamika aimed to address various livelihood issues of the tsunami affected fisherwoman.

8.7 No nasties

It is based in Goa. It deals with 100% organic, fair trade cotton clothing. They plant a tree in their No Nasties grove for every product sold. The increasing number of trees may be found in their newsletter.

8.8 Grassroot

It is an eco-friendly, leather free, vegan fashion brand, that offers handcrafted traditions from India with an aim to revive and sustain craft and artisans. The website of Grassroot tells the story of the artisans and their stories in their own website. (<https://www.womensweb.in/2018/08/sustainable-fashion-eco-fashion-india-aug18wk5sr/>)

9.0 Road Ahead

A KPMG survey was conducted in 2019 with 5,269 people worldwide, to find the consumers' support towards sustainable fashion. It was found that 90 percent participants supported the concept of sustainable fashion in Shanghai, while 49 percent in Tokyo, 55 percent in New York, 54 percent in London, 71 percent in Hong Kong have supported the same concept. Higher income groups, more frequent shoppers, and younger shoppers tended to be more supportive of sustainable fashion across all cities. To bring more awareness and make the sustainable business feasible and viable, both the companies and the consumers have responsibilities (<https://home.kpmg/cn/en/home/insights/2019/01/sustainable-fashion.html>) A roadmap towards achieving sustainability may include the following:

9.1 Roadmap for the organizations

Educating customers about the need of sustainable fashion - Companies need to make a sincere effort to have forum to discuss about sustainability, the challenges, and the prospects. Social media may be an effective tool to create such platform and to discuss about the company's commitment and initiatives towards sustainability. Resource allocation towards sustainability goal- It is really important for organizations to earmark the dedicated department and financial resources, for the purpose of promoting, nurturing and monitoring the sustainability initiatives.

9.2 Transparent policy

Companies need to promote transparency by disclosing the information to the stakeholders, including the customer, about the raw material, production process, employment conditions, and, so on.

9.3 Roadmap for the consumers

Consumer mind set about sustainable fashion – Consumers are the end-users of the fashion products, and thus, perhaps possess the maximum power to mould the industry practices, by embracing sustainable fashion. More the consumers become conscious and willing to buy sustainable fashion products, more feasible will be the sustainable operations and more the companies will be encouraged to bring the initiatives towards sustainable business practices.

9.4 Shopping with care

Consumers also need to develop conscious mind set to avoid impulse buying. Consciously, consumers should try to buy products which are made from recycled

materials. Also, the brands, which try to promote sustainability practices, are to be backed-up by the consumers.

10.0 Authors' Remarks

Fashion industry is today at an interesting crossroad where undercurrents of many issues seem to create multiple challenges for this sector. There is on the one hand the larger and lower end of the markets where price sensitivity is an issue. Many consumers are not willing to pay very high price for the fashion products and accessories they want to buy. On the other hand, there is another category of consumers who are willing to pay more and they are clearly more into sustainable fashion products. These customers would very much like to know whether the companies producing the fashion goods follow eco-friendly and sustainable practices in outsourcing raw materials and labour, and whether or not they follow sustainable and safe practices in their production, supply chain and retail establishments while making these good available to customers as an end product. Armed with information about fashion industry being involved in unethical practices for sourcing raw materials and engaging bonded labour, child labour and using non-biodegradable ingredients leading to pollution of ocean and land surfaces, and degradation of soil and deforestation-related problems, they are shying away from buying such products from companies who are not involved in sustainable business practices.

In the light of this background, certain issues become crucial not only from the academic standpoint, but also from the point of view of companies engaged in the fashion industry with regard to sustainable fashion production which are listed below:

- 1) Due to increased awareness among certain sections of customers about sustainability in general, and fashion industry in particular, companies involved in fashion industry are required to think about addressing the issues of sustainability differently than the what they used to do, until recently.
- 2) The fashion industries considered sustainability to be source of overhead for their companies. Measures of sustainability were only implemented to meet bare regulations to uphold the brand image of the company and square-off the competition.
- 3) Fashion companies were involved in sponsoring or running costly stand-alone neutral impact programs which were targeted at offsetting the perceived environmental and social impact of their core activity.
- 4) Only with growing concern and customer awareness about sustainability, the industry has come to re-assess the potential value-addition they may accrue from

practicing sustainability and the gains, sustainable fashion initiatives can bring in, for their businesses, when embedded directly at the core of the company's value proposition and consistently throughout the company's supply chain.

- 5) It is seen that while trying to implement such embedded practices as a core activity, three challenges might be faced by such companies:
 - First, a company wishing to implement such practices will need to make a long-term commitment to sustainable fashion principles which will involve allocating a dedicated budget, headcount and time across the organization for a long-term implementation of such chosen sustainable initiatives.
 - Second, management must be aware that implementing such principles will have a direct impact on margins, and the company would require to adapt to by adopting new business practices and services.
 - Third, the corporate governance structure of the company will be challenged as agency issues come into the picture. As such, the corporate governance strategy will need to be reviewed to factor in success measures on sustainability and favour long-term sustainability initiatives (Schmidt and Renken, 2012).
- 6) For the new entrants into fashion industry, there will be different set of issues which are listed below:
 - These entrants who often start as small players in local and regional markets face high barriers to entry while trying to enter into the national and international markets, especially since they have to compete on prices and brand recognition with the already named and established brands.
 - E-commerce and social media over a period of time will play a significant role in lowering of those barriers.
 - Finally, transparency will be the biggest challenge for both the older companies and the newer ones in this industry who wish to maintain and build sustainable business enterprises.
- 7) The related issues concerning use of manpower and sustainable and eco-friendly processes and systems down the entire value chain procurement to production will require companies to develop more serious governance policies and practices, so that they have better control of the supply chain, leading to reduction of costs as more audited results become the basis for budget allocation for sustainable business practices in future for these companies in this sector (Sustainable Fashion Blueprint, 2018).

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