

FABRIC FALLOUT: A WAR ON WASTE

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Abstract: *Currently, most cut and sewn clothing was approximately 85% of the fabric purchased for production, or about 15% of the fabric becomes waste during cutting. These cutting wastes of fabric are known as fabric fallouts. Textile industry has a significant presence in the national as well as international textile economy. Garment industries constitute an important area in maintaining national development through substantial increase exports. Almost any history of fashion is a history of waste making. Wastage is a big burden for the industry and ecology. All of the garment industries have their own cutting room in which fabric is laid out and cut in bulk, for bulk production and effective marker plan. But still there is a substantial quantity of fallout or waste material remains. Effective method of recycling and reusing the fabric exist, however zero percentage wastage is the most appropriate step.*

Keywords: *Fabric fallouts & dumping, Fabric utilization, Environmental impacts, Recycling.*

1. INTRODUCTION:

The world of clothing is always changing as new cultural influences meet technological innovations. People's habit change frequently, thus demands the speed of fabric production. Ready to wear industry has already made it's please tilt in common man's life. Mass production of clothing was started after the World War II. The demand for uniforms during civil war provided an impetus for increased production that coincides with the widespread adoption of the sewing machine in clothing manufacture. It is a true invention for the garment industry. Garment manufacturing industry helped to spread fashion across all sectors of the society and every country has adopted it for the clothing requirement, employment and economic growth.

Almost any history of fashion is a history of waste making. Wastage is a big burden for the industry and ecology. All of the garment industries have their own cutting room in which fabric laid out and cut in bulk, for bulk production. Fabric is laid out in several plies by special spreading machines before cutting as per the lay plan, to achieve the minimum wastage by a marker plan. Although the marker layout utilizes the fabric in the most effective plan possible, there is still a substantial quantity of fallout or waste material remains. Currently, most cut and sewn clothing uses approximately 85% of the fabric purchased for production, as about 15% of the fabric becomes waste during cutting. These wastes are going to landfill due to contamination and wetness. A landfill site is for the disposal of waste materials by burial and the oldest form of waste treatment. Historically landfills have been the most common method of organized waste disposal and remain so in many places around the world. Another is environmental dumping, is, the practice of transfrontier shipment of waste from one place to another which has less strict environment laws or laws that are not strictly followed. It is our duty to protect the environment from waste remnants.

Fashion industry leaves wastage in the form of fabric. These fallouts got a lot of scope for designers. Fallouts is also a main good source of inspiration. One can create wonders by applying creativity. It is also an income generating activity and can utilize wastage effectively.

2. HISTORY OF FASHION INDUSTRY:

The latter half of the 19th Century saw the emergence of the readymade garment industry in the world. The department stores set up in the US and Western Europe during the years 1840-80, increased the consumer accessibility to the readymade garments, which helped the initial growth of readymade garment consumption and production. After World War I the manufacturing facilities set up for army uniforms were converted into readymade garment manufacturing units. This resulted in the second phase of growth of the ready to wear garment industry. The need for mass production led to proliferation of several small scale nature of the garment industry acquired during this period continues to exert its influence on the growth pattern of the industry. The textile industry displays a very complex sectoral dispersal matrix with hand-spun and hand woven sector on end of the spectrum and a capital intensive sophisticated mill sector at the other end. In between it has a decentralized power loom and knitting sectors. Further there exists an organized sector called 'island of excellence' using highly sophisticated information technology based equipment with latest facilities.

3. FABRIC FALLOUTS AND DUMPING:

Although the marker's layout utilizes the fabric in the most efficient plan possible, there is still a substantial quantity of fallout, or waste material. In the past, the waste goods commonly were delivered to landfills. This procedure has become more expensive, in part because of the reduction in available landfill space and the increase in transportation costs. Furthermore, today's society expects responsible recycling and reusing. Decomposing clothing releases methane, a harmful green house gas and a significant contributor to global warming. There are dyes and chemicals in fabric and other components of clothing and shoes that can leach into the soil, contaminating both surface and ground water.

4. TYPES OF TEXTILE WASTE:

Waste generated in the fashion industry supply chain before the textile reached the consumer.

4.1. Textile swatch waste

Textile swatch is leftover samples.

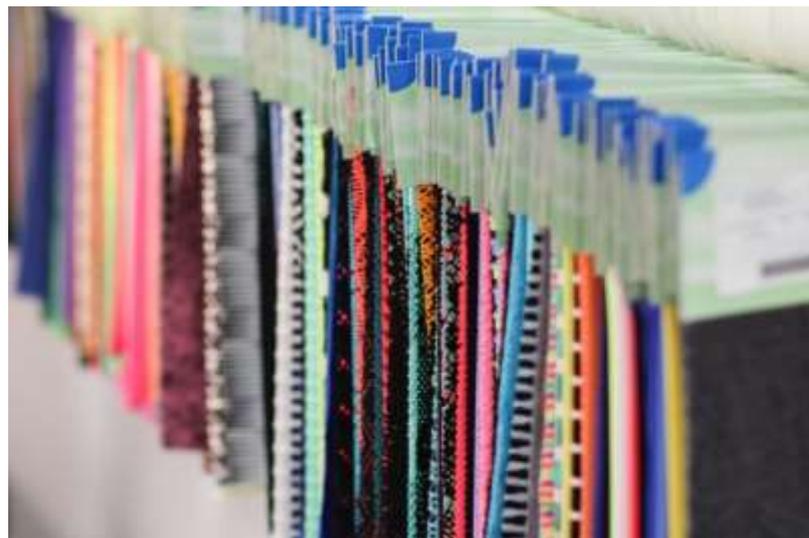


Fig.4.1 Textile Swatch waste

4.2. Cut and sew textile waste

It is the textile scraps generated during garment manufacturing



Fig.4.2 Cut and sew textile waste

4.3. Sampling yardage waste

It is the factory surplus textiles that have been leftover from textile sample manufacturing.



Fig.4.3 Sampling yardage waste

4.4. End- of- roll textile waste

It is the factory surplus textile waste left over on the textile rolls from garment manufacturing.



Fig.4.4 End-of- roll textile waste

4.5. Damaged textile waste

It is the unfinished textiles that have been damaged for example, for example color or print defects.



Fig.4.5 Damaged textile waste

4.6. Clothing sample waste

It is the part finished or finished clothing samples from the design and production of clothing which have not been worn by consumers.



Fig.4.6 Clothing sample waste

4.7. Finished clothing waste

It is the unsold finished clothing waste that has not been worn.



Fig.4.7 Finished clothing waste

5. FABRIC UTILIZATION:

For proper costing of a garment and cost reduction, it is necessary to have good understanding of the fabric utilization and various fabric losses that occur during garment production. The fabrics can be broadly divided into 3 categories according to the width of the fabric are, Tubular knitted fabric, Narrow open width fabric and Wide open width fabric. The quantity of fabric usage depends upon the marker efficiency. Mathematically the marker efficiency is the percentage of the total fabrics that is actually used in garment parts.

$$\text{Marker efficiency} = (\text{Area of pattern pieces} / \text{Total fabric area}) \times 100$$

Higher is the marker efficiency higher is the fabric usage. Expectations for marker efficiency differ from manufacturer to manufacturer. The area in between the pattern pieces, which is not used by garment parts, is waste

6. ENVIRONMENTAL IMPACTS:

Earth is a unique planet composed of both biotic and abiotic elements. The abiotic compounds like air, water, soil and land in combination with solar energy and rain falls results in primary biotic life the formation of vegetation, flora and further to fauna. All processes in nature follows as birth, growth, death, decomposing and recycling back into environment. A pollutant is a substance that causes pollution. In other words, it is an unwanted substance added to the environment that alters the physical, chemical and biological properties of the environment. It causes damage to living organisms. Textiles and clothing have been identified as having environmental impact across their lifecycle. UK consumes approximately 2m tones of clothing, and although about 0.5m tones are recycled or rinsed, still dispose of about 1m tones. We need to start creative innovative, added- value applications for recycled textiles and making desirable products out of recycled postconsumer materials.

7. RECYCLING:

The reuse of valueless material is considered upcycling, as opposed to recycling or down cycling. Recycling by its nature is simply a reuse, or repurposing of material, and generally used as a catch all phrase that encompasses upcycling and downcycling. Downcycling is the reuse of materials in such a way that the end use is less valuable than the original use, for example, damage textiles being used for car seat stuffing. Upcycling is the reuse of materials through creative and labour that result in the end product being valued more highly than the materials used to create it. Using a textile mills sample swatches, or an apparel manufacturers production cutting waste to fashion finished garments, is therefore considered upcycling. Textile recycling is the process by which old clothing and other textiles are recovered for rene or material recovery. It is the basis for the textile recycling industry. The necessary steps in the textile recycling process involve the donation, collection, sorting and processing of textiles. One hurdle for increased textile recycling is that the various fibers that comprise clothing make reprocessing and recycling a challenge. Some materials such as cotton and linen can be composted, but petroleum- based fibers such as polyester have little chance for reuse.

8. CONCLUSION:

India is rich in textile industries and there is a need to control environment impacts and to expose the in house captivated designer's skill to the outside world by using the fabric fallouts into new fashion experimentation. Fashion industry leaves lot of wastage in the form of fabric. These fallouts have a lot of scopes and also a good source for inspiration for the artistic designers. This also would pave way to reduce textile waste dumping.

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