

Reusing Crafted Fabric and Zero Waste Fashion Approaches

Kamrun Nahar Naznin¹, Rayed Barkat²

Abstract— Waste material is one of the major reasons for pollution today because environmental awareness is increasing day by day. Considerable amount of fabric is wasted when making garments. Clothing and apparel wastes cause pollution seriously. In many countries, there is no rational recycling sector that belongs to clothing sector. The waste textile materials don't need to damage the people and environment while burning, storing, languishing or destroying of those waste materials. Beside this type of textile waste, our daily life fashion wastage is also responsible for the pollution which is taking place due to fast fashion. Up-cycling or re-cycling is the best solution in this situation. In this study, there is a sustainable design technique to make new design by using waste clothes. Up-cycling is applied to make the clothe from waste Bangladeshi crafted fabric (Tant Saree) & zero waste technique is also applied on that. Aim of this study is to improve awareness to re-use our own fabric and use of new sustainable techniques.

Index Terms—Up-cycling, Sustainable design, pollution, crafted fabric, zero waste design, crafted fabric, Tant fabric.

1 INTRODUCTION

Fashion is a state of mind. A spirit, an extension of one's self. Fashion talks, it can be an understated whisper, a high-energy scream or an all-knowing wink and a smile. Most of all fashion is about being comfortable with you, translating self-esteem into a personal style. [9]

Textile and clothing industry is the 2nd largest contributor in industrial pollution. About 17-20% of global water get polluted by using near to 8000 synthetic chemicals for its processing, 25% of the world's pesticides are used to grow non-organic cotton. To produce T-shirts or a pair of jeans equivalent to one kilogram of cotton requires more than 20,000 liters of water. It's the 2nd highest carbon emitter responsible for 10% global emission. About 85% of textiles are sent to landfills covering 4% of land which produces 21b tons of garbage every year. It is to be mentioned that these figures don't mean that these pollutions are all happening in textile and clothing manufacturing countries like Bangladesh, the biggest part of these pollutions happen in cotton producing countries, chemical and other synthetic material producing countries and more importantly by the consumers of the clothing in the west. [8]

Fashion industry is growing very quickly. We are now introducing Fast Fashion. Fast fashion is a contemporary term used by fashion retailers to express that designs move from

tain aspects of the supply chain for these trends to be designed and manufactured quickly and inexpensively to allow the mainstream consumer to buy current clothing styles at a lower price. This has developed from a product-driven concept based on a manufacturing model referred to as "quick response" developed in the U.S. in the 1980s and moved to a market-based model of "fast fashion" in the late 1990s and first part of the 21st century. Fast fashion has also become associated with disposable fashion because it has delivered designer product to a mass market at relatively low prices. The slow fashion movement has arisen in opposition to fast fashion, blaming it for pollution (both in the production of clothes and in the decay of synthetic fabrics), shoddy workmanship, and emphasizing very brief trends over classic style. Fast fashion has also come under criticism for contributing to poor working conditions in developing countries. According to Elizabeth Cline, author of *Where Does Discarded Clothing Go?* Americans are purchasing five times the amount of clothing than they did in 1980. Due to this rise in consumption, developed countries are producing more and more garments each season. The United States imports more than 1 billion garments annually from China alone while the United Kingdom textile consumption surged by 37% from 2001 to 2005. Both of these statistics are contributing factors to the pollution caused by the fast fashion. Throughout all stages of textile production, the aquatic, terrestrial, and atmospheric ecosystems experience lasting environmental harm. One of these harmful effects is the release of greenhouse gases into the air, thus polluting these various ecosystems. As stated, fast fashion has caused a rise in environmental damage over the years. [10] As a whole, the fast fashion sector of the fashion industry is polluting the planet at a continuous rate. [4] Due to the amount of pollution and waste caused by the fashion industry; advances in the realm of sustainability have been made possible. We have to encourage recycling and up-cycling from the general public.

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catwalk quickly to capture current fashion trends. Fast fashion clothing collections are based on the most recent fashion trends presented at Fashion Week in both the spring and the autumn of every year. Emphasis is on optimizing cer-

2 SUSTAINABLE DESIGN METHODS

We must know the history of sustainable design thinking. From the fashion designer's perspective there are several practices carried out during the design phase that can be adopted to become a more conscious designer. Up-cycling is the widely used method of sustainable design. But implementing zero waste pattern making during the preparation of textile garments products may reduce the amount of waste.

2.1 ZERO-waste fashion throughout the history

One of the most widely used terms associated with sustainable fashion is zero-waste cutting. This practice of using the whole material in a garment can be dated back to pre-historical times when the animal skins were draped on the body. Later on with the development of woven fabric, the complete length of the cloth without any cutting was worn as a garment in ancient Greece. Another example is the Japanese traditional dress kimono that is constructed of a rectangular piece of cloth with the dimensions of 30-40 centimeters in width and up to 11 - 12 meters in length. The cloth is split in total of eight pieces with no fabric wasted in the cutting process.

During history, in the middle ages there have been other samples of zero or less-waste garments which are cut from one piece and partly slit to create sleeves and opening for the head. The garment is folded, with the bodice to wrap around on the center back and to attach to a yoke seam from which the sleeves come out. A similar principle with a different method of cutting the fabric is used when the garment is constructed of rectangular pieces. The sleeves are cut separately but the fit is improved through the use of gussets. A gusset is a small piece of fabric in triangular or rhomboidal shape that is sewn between seams in areas of strain, such as where the arm joins the body or in the crotch seam. Gusset can not only improve fit and movement, but can add to the longevity of the garment. The examples of square-cut shirts were widely worn in Europe and America until 19th century when it was replaced by refining the construction of a shirt. Usage of curved cuts around the armholes and neck allowed achieving a better fit on the body. [1]

While it is hard to determine where zero-waste cutting as a mindful act began, we can identify some of the first creators of less and no-waste clothing starting from early twentieth century onward. One such example is the tuta or overalls designed by Italian futurist artist Ernesto Michahelles, also known as Thayaht in 1919. He developed various versions of the tuta, including a two-piece garment both for men and women with the main body of the garment cut in one piece. Similarly to the square-cut shirts, the tuta is constructed of rectangular pieces with gussets inserted under the armholes and a triangular gusset in the crotch to achieve the fit. During the early 1920s Thayaht worked for a fashion innovator and Parisian couturier Madeleine Vionnet and both shared an interest in a design theory known as dynamic symmetry. This theory made connections between growth rates found in nature with proportioning system seen in classical Greek art. A

dress design by Vionnet consists of four rectangular cut pieces on the straight grain while hanging on the bias. Here it is important to point out that cutting garments on the bias can result in more fabric waste, while cutting on the straight grain and letting the fabric to hang on the bias can provide the opposite – to eliminate waste. [2]

2.2 Up-cycling product and zero waste pattern technical study

This is a process of creating/ making new clothes for the materials that have been worn before. Designing clothes that are in the wardrobes, clothes that are not used or second hand clothes, is another kind of recycling. Here old traditional Tant saree is used to make fashionable new clothes, because these two sarees were un-useable and marked as waste. In addition, Tant saree is a traditional Bengali saree and usually used by Bengali women. It is traditionally made by the weavers from all over Bangladesh. Tangail of Bangladesh is famous for tant saree weaving. Generally a Tant saree is 5 to 9 yards (4.5m to 8m) in length and 2 to 4 feet (60cm to 1.2m) in breadth[8].

2.2.1 Material Used

Tant saree, Paper pattern, Scissor, Threads, Sewing machine

2.2.2 Applications

- Use the wastage of textile or re using old clothes in new designs of products. Textile wastage and old cloths can be converted into new products by various techniques. Sewing new clothes by combining the waste pieces, re- use old clothes and converted by making new one. Here using old traditional tant saree for making new garments.
- Full saree is used to make new garments. Inspired from Japanese traditional dress kimono and give new design which is appropriate for young generation.
- Make pattern to use zero waste technique. Zero waste technique is removing the waste of textile during the process. It consists of using all fabrics in a useful way or cutting according to fabrics or build of the clothes as knitting as a whole dress or using zero waste patterns.

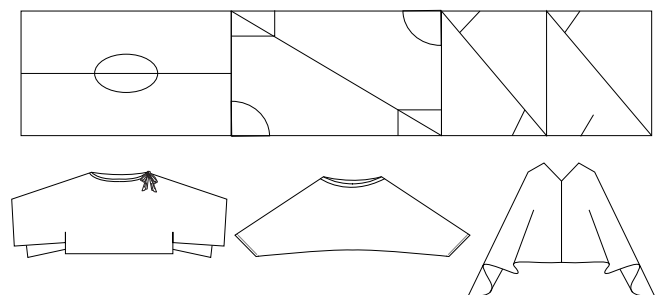


Fig 1: Pattern with flat drawing

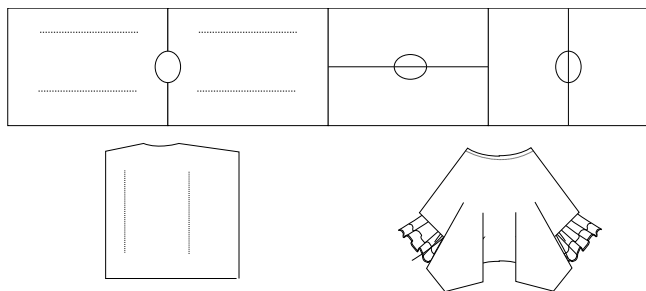
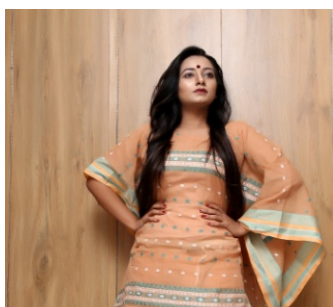


Fig 2: Pattern with flat drawing

- d. Cut saree (fabric) and stitch properly to get new look.
 - e. Very simple stitch is used to make new garments.
- All garments are very fashionable and suitable for age 20 to 25years old women. Used saree is using for making garments and all are cotton saree so that all garments are comfortable for wearing the summer season also.



Fig 3: Final Design 1



Design 2

Fig 4: Final

Fig 5: Final Design 3

4 CONCLUSION

Hence this is an attempt made with creative technique for up-cycling and making new clothes by sustainable way. It will be a good solution for the problems of environment and economics that is why we use the waste fabrics for new items. Moreover, we up cycle the things instead of throwing them to environment. With this project I want to motivate people to re-use product and increase awareness of sustainability as this is the talk of the topic now a days.

5 ACKNOWLEDGMENT

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