

SUSTAINABLE TRANSFORMATION IN GARMENTS RECYCLING

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I. INTRODUCTION

The textiles and its products manufactured to perform a wide range of functions and they are made from different types of fibers mixed in varying proportions. While the textile industry has a long history, a large proportion of unnecessary waste is still produced each and every year, much of which is disposed of in landfill. Textile wastes take many forms and are often complex in nature due to the wide range of manufacturing and complex mixtures of fibers make it separation more difficult and more costly, and this has implications for the profitability of textile recycling. Textile wastes are arising from both the household (consumer) sector and the industrial (manufacturing) sector. Consumer waste are generally comprises binned waste, they separated for reuse or recycling, like unwanted clothing and carpets. Manufacturing waste originates from the processing of raw materials in the fabrication and production of finished textiles and garments, including cuttings and rejected materials. Commercially, textile waste generation is influenced by the production of textile goods. The higher production creates the greater amount of waste. This is in turn a function of consumer demand. Consumers react to changes in fashion both in clothing and household interior designs. Seasonal changes in fashion mean that clothes can become outdated very quickly, and this encourages the replacement and disposal of outdated one.

II. RECYCLING MATERIALS

Mostly, textile waste from the domestic sources is discarded at large quantity in every year. From these 95% of land filled textiles are recycled and remaining waste are not recycled or reused, they are sending to landfills. This will creates degradative effects under normal circumstances in the natural environments by exposed to air or moisture in the atmosphere, radiation, mechanical stress and combinations of two or more of these processes. The recycling of textile waste from varies sources are given in figure 1. In this figure large quantity of recycling is done in the sector of second hand cloth or used garments. This includes exporting and conversion of new products.

III. BENEFITS OF TEXTILE RECOVERY

Recovery and recycling provide both environmental and economic benefits. It reduces the need for landfill space. Textiles present particular problems in landfill as synthetic (man-made fibres) products will not decompose, while woollen garments do decompose and produce methane, which contributes to global warming. Reduces pressure on virgin resources and the items do not need to be re-dyed or scoured. Fifty percent less energy is used in the production of fabric using recycled fibre and less effluent, as unlike raw wool, it does not have to be thoroughly washed using large volumes of water. So, recycling gives reduction of demand for dyes and fixing agents and the problems caused by their use and manufacture. The figure 2 shows the kinds of textile recycling.

IV. POINTS TO REMEMBER BEFORE RECYCLING

Reusable of little turned or unused textile items into usable products need some basic sewing skills, which used for repairing, changing or customizing a garment. More advanced skills required for remodel a garment or re-cut it. For recycling of clothing following points should considered.

- The color, design, texture, and quality of fabric in the old garment.
- Condition of the fabric and suitability of the design.
- Select a becoming color for children's garments. The colors in trims, inserts, collars, cuffs should be

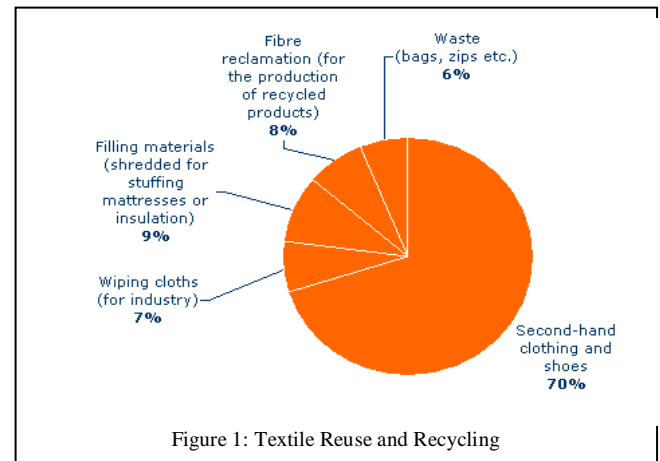


Figure 1: Textile Reuse and Recycling

bright and other features darker colors such as

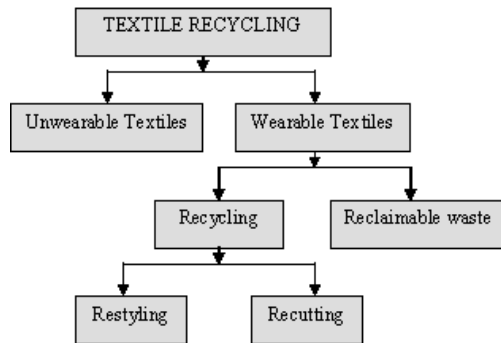


Figure 2: Recycling of garments

navy, brown, or gray.

- Avoid fabrics that look too old or mature for the wearer and faded or worn.
- Quantity, size and placement of the fabric design is suitable for the size of the person and fashion to be created.
- Avoid emphasizing poor figure features.
- Fabric should be without permanent creases, faded fold lines, needle marks, or trims.

V. RECLAMATION PROCESS

In reclamation process, the various type of materials and different coloured products are segregated and opened to make a yarn for the post spinning process. No re-dyeing is required for the coloured products. So that the saving of energy and pollutants. Depending upon the end use of the products (rugs, carpets etc.) the opened fibers undergone blending and spun in to yarn.

A. Restyling by minor changes

Minor changes can make a dramatic difference in the fashion look of a garment without a need of lot of work. The table 1 and figure 3 shows the minor changes made in

- Select new buttons or a belt.
- Combine it with another piece of clothing to bring it up-to-date.
- Add jewelry or use a tie, bow, or scarf.
- Simple sewing procedures can often make important differences.
- By changing the look of a garment by adding the suede cloth patches to the jackets and sweater, which will cover the damages, colour changes etc., in the garment
- Hand decorations. Blanket stitch the yoke seams, edges of collars, around pockets and on belts. Crochet pretty edges on collars and cuffs. Embroider or appliqué a design over worn places.
- Machine or hand topstitching either in contrasting or matching thread. Stitch following edges and seam lines or create lines to give a desired effect.
- Braids to finish an edge or as a trim. Make a belt of braid by stitching it on belting and adding a buckle.

Table.2: New garments major changes on old garments

S.NO	CONVERT FROM	CONVERT AS
1	Dress	Tunic or top.
2	sweater, skirt or blouse	Dickey.
3	Jumper or tunic	Vest or dress.
4	Sew up or skirt slits	pleats
5	Garments	by inserting yokes, midriffs horizontal inserts

- Trims to outline design features on garments. Consider trimming features such as yokes, pockets, necklines, cuffs, collars, waistbands or edges.
- Changing the hem length to suit new fashion trends and individual body proportions.
- If the original hemline is faced, Soiled or permanently creased, cover it with decorative stitching, braid or rickrack.
- Converting a plain shirt into a tailored shirt by stitching mock tucks down the front. Use mock

Table.1: New garments minor changes on old garments

S.NO	PRODUCED FROM	PRODUCED AS
1	Man's tie	Woman's fashion accessories
2	Fur stole	Hat, collar or Pillow covers
3	Never-worn edges of mattress pads	hot pads, table runners, glasses cases, or padding and reinforcement for a number of items
4	Old sheets	Garment bags, wedding gowns or formals



Figure 3: Accessories for minor changes

various garment for making new garments.

tucks on camisoles also.

- Making a decorative belt by using two pieces of fabric and interfacing. Stitch mock tucks lengthwise and add a buckle.

B. Restyling by major changes

Sewing skills are good, useable garment can be restyled to get added wear. The table 2 and figure 4 shows restyling techniques. Remaking a garment will require careful planning and innovative ideas.

C. Re-Cutting The Garments

Adult clothing can be a good source of fabric for a garment for another family member. Preparation of the fabric for re-cutting by either ripping all seams apart or if there is enough fabric, cutting along seam lines. Either have the fabric cleaned or carefully hand wash and press. Save all buttons, zipper and notions.

- Launder if the fabric is washable and remove stubborn oily and greasy stains.
- Press the fabric with a steam iron, or a dry iron and damp press cloth.
- If the wrong side of fabric has a fresh new appearance, it can be used as the right side of the new garment.

If the fabric is too worn to be useful in a new garment, or is faded, torn grayed or stained these are all used to make dust cloths and use it as children for playing dress-up, rag rugs, tie up plants in the garden, stuffing for toys or pillows, craft projects such as quilts.

VI. CUTTING THE NEW GARMENT

The figure 5 shows new garment cutting from used garment by transformation of fashion style.

- Press pattern pieces smooth.
- Locate grainline of each fabric section to be used.
- Lay the pattern pieces on the prepared sections of fabric. Follow the grainline carefully.
- If fabric is limited, skimp on seam allowances when necessary. Mark the stitching line so you still know where to stitch.
- If piecing is necessary, do so where it will not show. Piece under arms, on collars or lapels, and inside pleats and facing. When piecing cannot be hidden, plan it as part of the decorative design such as a yoke or tucks.

VII. CONCLUSION

From the above it is understood that various methods adopted for the transformation of second hand garments, which provides largest recycling raw materials for the garment creators or Fashion technologists. This kind of recycling is possible to realize many advantages like energy savings, reduction of manufacturing cost and

pollutants, so that it is benifical to both the envirnment and the economy of the country.







		
Add width by inserting gussets of coordinated fabric.	Convert a dress to a tunic or top.	Vest from a jumper or tunic from a dress.
		
Shorten a jacket and add trim.	Remove the collar on a jacket and add trim.	Lengthen a skirt by adding a yoke at the waistline; it can be covered with an over-blouse.

Figure 4: Major changes in restyling of garments

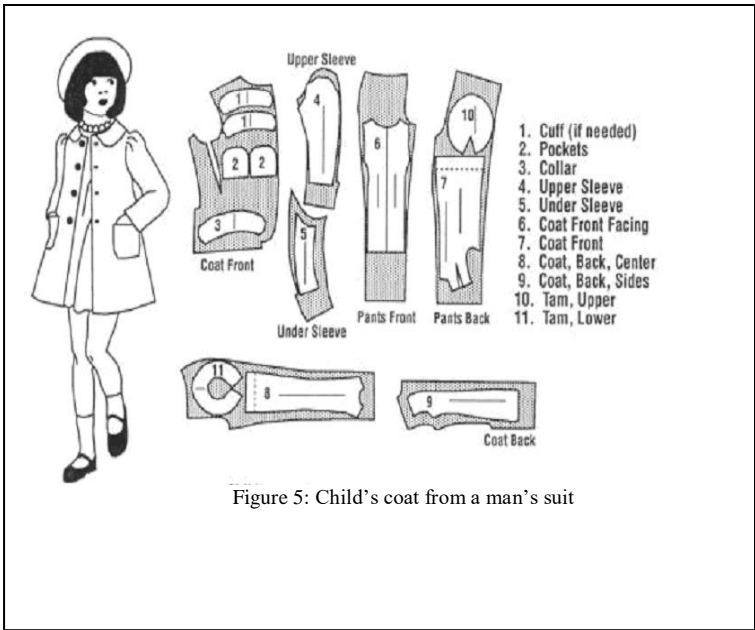


Figure 5: Child's coat from a man's suit

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