

Sustainable Practices of Traditional Indian Apparel

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Fashion by its very nature is not sustainable, on the contrary it's only constant is change. However, in today's world situation the global community is awakening to the need of a sustainable world, in order to protect the earth and environment from this man-made catastrophe that is threatening to make this world unliveable very shortly. The fashion and textile industry which is the second largest employer in the country also needs to do its bit by contributing towards saving the environment. For past few decades some efforts have been made in this regard, from banning azo dyes and promoting natural dyes, using less water for finishing of fabrics. Propagating green fashion through use of organic fibres in apparel, recycling or upcycling old and used garments as a fashion statement and recommending fashion trends which promotes these styles.

According to the report by IPCC in 2013 for a study on Global Greenhouse Emission reported that around 22% waste (19% industry emission and 3% waste water) is responsible for greenhouse gases which is directly responsible for climate change. The pre- production textile waste generated in India was estimated at 80,000 to 85,000 tons per year (Indian Textile Journal 2011). The apparel production process generates millions of tons of waste each year traditional apparel production methods use about 80-85 % of fabric while the remaining 15 to 20 percent of the fabric is discarded on the cutting room floor. This discarded material generally reaches the landfill. Hence, it is absolutely crucial to ensure that wastage is minimized and also the waste materials is disposed of properly to protect the atmosphere, for this some designers are promoting labels in which all the garments or accessories are made with remnants of fabric cutting or industrial waste.

Traditional styles of western apparel result in a considerable amount of wasted fabric which is often discarded in the production process of a stitched garment. Even when these discarded fabrics are minimal they still contribute to the huge landfills and also contribute the carbon footprint due to the energy spent in production of this fabric. New concepts in waste reduction in past few years have been development of new concepts which reduce this cutting room waste. These methods call for effective utilization of fabric by including various types of pattern shapes, lay plans or 'markers', size combinations or 'size ratios' and fabric spreading techniques.

Timo Rissanen, a pattern designer believes that fabric waste is modern development and that it is up to designers to 'design it out of the system'. The zero-waste approach is built on the concept of sustainable design where a product is created with due consideration of its environmental and social impact. Zero waste theory of pattern making works by reducing wastage to a minimum from the pattern stage. This concept has been generating interest international designers especially those who are inclined towards green design or eco-friendly fashion.

The concept of zero wastage is not a novelty to Indian fashion. The traditional Indian garments like sari, duppatta, dhoti or lungi are long pieces of woven fabric draped around the body, fabric is used straight from the loom on to the body. The stitched garments on the other hand are result of Mughal and British influence on Indian apparel. The patterns of these stitched garments are geometric and similar to the other oriental garments like a Japanese Kimono. Indian patterns are a combination of geometric shapes mostly rectangles of various sizes and interspersed with other shapes squares, trapeziums and triangles as godet's to mould the body shape and also to create ease for body movement.

Pattern making is a core activity in Fashion industry through which a design is transformed from an idea or a concept to a garment. A pattern maker, translates the designer's visualization into reality, by interpreting them by drafting them into pattern pieces and converting them into a garment. The principles of patternmaking are the foundation that helps support the changes in fashion and turn dreams into reality. A garment is divided into its basic parts of pattern pieces through a process of drafting using a small shapes. Pattern making basically has two main components - measuring properly & knowledge of techniques devised to draft the body shapes that include necessary seam allowances. Measuring the human body is the first step to developing garments to fit the body.

The three patternmaking methods generally used in the industry are Draping, Pattern drafting and Flat patternmaking. Draping is the method which is generally regarded as a creative approach but is substantially time-consuming. It involves creation of pattern pieces directly onto the three dimensional dress forms. Flat patternmaking on the other hand is a time-efficient patternmaking method that brings consistency to the sizing and fit of mass-produced garments. The effectiveness of this method depends on the manipulation of the sloper, which forms the basis of pattern development. Pattern drafting or Direct drafting Direct drafting method is faster and more systematic but often less precise. Drafting is a method of pattern construction based upon the systematic layout of measurements taken directly from the human form.

Traditionally Indian garments are cut by direct drafting method, a technique mastered by Indian pattern makers. Traditional Indian garments especially *choli blouse*, *petticoat*, *kalidarkurta*, *salwar* and *churidar pajama* are a composition of basic geometric shapes namely rectangle, square, circle and trapezium. The shapes and placement of pattern pieces hold the key to minimal or even zero wastage of fabrics. This is best illustrated in these four garments, starting with lower body garments

This lower bifurcated garment **Salwar** uses basic geometric shapes of the rectangle and trapezium utilizing the principle of zero waste. The placement of the pattern pieces of the salwar for optimum utilization of fabric in different widths of fabric creates variations in salwar designs e.g. the Patiala salwar, Peshawari.

A design variation of basic salwar Patiala salwar uses the larger width fabric, the side panel or kali is cut on fabric i.e. 45" in width, a Peshawari salwar is cut with double the width of Patiala salwar.

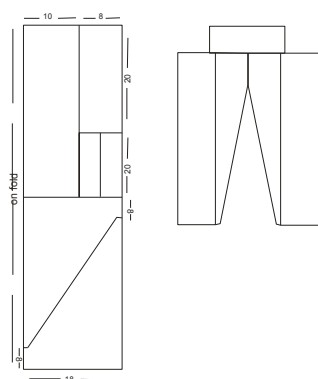


Figure 1: Peshwari Salwar

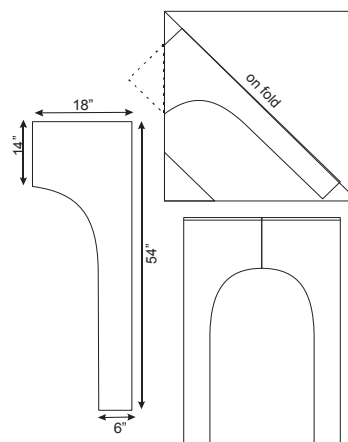


Figure 2: Churidar Pajama

Traditional lower-body attire **Churidar-pajama** was initially worn to ride horse-back is a fitted trouser like garment that looks elegant and smart is worn generally under a kurta or bandgala by both men and women. Due to its very close fit the pyjama was cut on bias grain of fabric so as to give stretch to the garment. The traditional method to cut the churidar pyjama was to fold the fabric on bias grain and stitch it to create a 'bag' shape. This method minimized the requirement of fabric however, while fabric consumption was economical, there was an inherent problem with the ease of wearing the Churidar Pyjama. The 'bag' pattern resulted in a seam on the thigh of the person wearing it which would inevitably rip open if the wearer sat on his/her haunches or crouched on the ground. The problem has been solved by using a pattern that uses the two folded lengths of fabric which is first folded in half lengthwise and then again diagonally. Modern times have seen the introduction of a waistband in the churidar-pajama, which was not the traditional norm. However, in this method consumes more fabric. The combination of the bag-shaped pattern with the waist band is the most economical version and eliminates the potential threat of tears in the churidar. Moreover the youth, acclimatized to jeans prefers pull-up elasticized waistbands over the drawstring or *nada* version. Use of knitted fabric in place of woven fabric and lycra blended fabric gives Gen next the choice of tradition with modern comfort.

The bag method of cutting provides endless possibilities for designers to create designs using the bag method. Bandis worn by Gujarati men also uses the similar bag method wherein the the seam is used to make a pocket for safekeeping the money carried by traders for centuries.

KalidarKurta deriving its name from the '*kali*' or panel, is a comfortable and versatile upper garment catering to a range of body sizes. The pattern is similar to that of the Japanese Kimono. Variations of the Kalidarkurta are Bhopalikurta, Jama, Angarkha, all of which follow the same principles of pattern-making requiring only the measurements of the chest/ bust, length of kurta and sleeve length. The pattern uses geometric shapes namely rectangles, squares and trapezium which can minimize or even eliminate fabric wastage completely. It is interesting to note that the principle of pattern-cutting for the kalidarkurta as an upper garment is similar to that of lower garments like the salwar and petticoat.

The *kali* and sleeve pattern are cut as two trapeziums. The sleeve has a straight armhole where traditionally a square gusset is attached between the sleeve and kali for ease of arm movement.

The traditional kurta was cut with the centre panel on fold in a continuous rectangular length thus eliminating the shoulder seam. However, the neckline tended to 'pull' at the back, the reason being that in the 'folding' method, the armhole depth at the front and back was identical. In terms of ergonomics, the front armhole length is shorter than the back armhole length.

The notable fact about the salwar, churidarpajama and kalidarkurta is that the method of pattern- cutting is identical for both genders. The difference lies in the individual measurements. These three garments are worn by both men and women even today, though today salwar is worn by men only in certain communities and geographical locations.

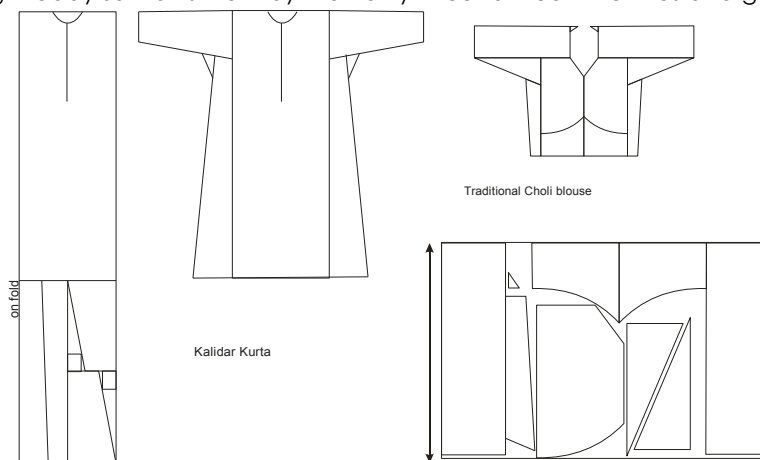


Figure 3:KalidarKurta

Figure 4:Choli Blouse

Traditionally women in India did not wear any lingerie with a choli blouse and yet felt a sense of comfort and modesty. The **choli blouse** is significant in its duality both as an outerwear garment which fits the body like second skin and simultaneously as a foundation garment for women. It is distinct from the other version of the traditional darted blouse primarily in terms of its ability to fit a wide range of body types and sizes. The versatility of fit stems from two aspects; the first is that the pattern features are noticeably geometric in shape comprising rectangles (panels) and circles (bust cup) and the second is the manipulation of the direction of placement on the fabric grain. The blouse works on the principle of stretchability and rigidity. The bust cup or *choli* has two notable features; firstly it is cut on bias for maximum stretch in order to fit a range of bust sizes and secondly it is gathered at the centre-front to give added ease. The under-bust band cut on a straight grain provides the necessary support due to the lack of stretch. The single-piece side panel also cut on the straight grain is rectangular traversing from the front to the back. The back of the *chaniya choliis* partially covered held together with strings. The traditional sleeve pattern has a straight (i.e. non-shaped) armhole. The gusset between sleeve and side panel allows the wearer comfort, ease of movement and lift of the arm.

There is once again an interest in younger Indian women for wearing a sari regularly but with different styles of blouses. They are sourcing readymade blouses due to paucity of time as well designs available and cost factor of a made to measure blouse. As choli cut blouses have the ability to adapt to various shapes of body and where one size with back lacing could fit large number women.

Young Indian designers are adopting the zero waste pattern making techniques of traditional Indian apparel in their designs. Designers like Aneeth Arora of 'Pero' use traditional textiles and cutting techniques to create fresh and trendy designs, which are fun to wear too. Her garments are young and stylish yet rooted in tradition. SuketDhir a well-known menswear designer uses hand woven textiles for his jackets but styles his trousers and shirts using traditional Indian pattern making methods.

Gaurav Gupta more known for his women's wear, makes amazing draped trousers which himself also wears with zero waste pattern making. Other young designers like Kutub, Mohini, Aparna, Ryman and Saurabh among others have done it as their graduation Design collections. The trend has begun and will get stronger in days to come.

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