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DESIGN AND CONSTRUCT APPAREL USING DEVELOPED FABRICS

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ABSTRACT

Weaving by hand and other other handicrafts are firmly rooted in our culture's history and customs. Whether it was a tool or a decorative object, it never failed to bring us joy. In addition to all of these functions, it is also a significant contributor to the Indian economy. This research was conducted in order to establish Mashru once again via innovative design, development, and a broader range of products, as well as to learn more about its history and design idiom. Researchers used a variety of approaches, including case studies, interviews, focus groups, and observations, to get the job done, including descriptive, exploratory, and experimental studies. Weavers and merchants in the Kutch-Bhuj villages of Patan, Bhujodi, Mandavi, and Godhra provided the bulk of the information gathered. Snowball and purposive sampling were used to get data on the craftspeople. The future of Mashru depends on a younger generation that is educated about the importance of their trade.

Keywords: Clothing and Textiles, Design, Diversification, Traditional Mashru

INTRODUCTION

Sewing is a fascinating and artistic skill. The many parts of a garment are stitched together to make the final product. Sewing fundamentals like as stitches, seams, darts, gathers, pleats, and edge finishing are essential to the technical success of garment production. It is crucial for a high-quality garment to be constructed using this method. A well-fitting clothing that has been given careful attention to its intricacies will be visually appealing. The correct side of the cloth and the wrong side are both important concepts for a Sewing Machine Operator to grasp.

The selvedge of the material is the primary identifier for them. The right side of most fabrics has sleeker selvedges whereas the left side has rougher edges. Stitch types, particularly constructive stitches like the temporary and permanent ones, are important to learn and practice. Flat seams, lapped seams, French seams, slot seams, etc. are also utilized in the construction of the garment. Different types of edge finishes, such as the pinked finish, edge stitched finish, double stitch finish, etc., are used to complete the edges of clothing. This Unit will teach you the fundamentals of garment construction, including the many types of stitches, seams, edge finishes, etc.

Design, materials, price, and production method are all important aspects of clothing creation. All of these considerations are important in the early stages of brainstorming. The garment's design should be examined to see how well it facilitates quick and simple manufacture. The product development team should look at methods to streamline production processes and save expenses throughout the review phase. In

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addition to being an original thinker, the designer must be well-versed in the many tools and systems used in production. When creating a garment, designers should think about how the design will translate into pattern pieces and how efficient the production will be. The apparent contour of the pattern section, as well as its form, length, and breadth, must be taken into account in order to create the garment effectively or to align the garment section appropriately.

As a result, automated methods may be used more effectively. Since machines, equipment, and automated functions react differently to various textiles, the designer must take into account the performance expectation of the fabric for the style in addition to the styling and production needs. The designer is in a prime position to provide suggestions for how a design might be modified or approved to take advantage of efficient manufacturing processes because of their familiarity with the product's final use, production techniques, cost, and availability of equipment. If the designer knew about these limitations beforehand, they might better plan their work.

If designers and patternmakers had a better grasp of the boundaries and limitations of actual manufacturing, they might cut down on development time. As a result, the time and money spent on developing samples via trial and error may be cut down significantly. The designer also contributes to the company's competitiveness because of the designer's role in supporting the usage of cutting-edge technologies. Make adjustments to the garment's design and/or pattern if the parameters of the garment prevent it from being manufactured using the planned method. The designer must recognize and accept the alterations as necessary components of the system-wide interactions needed to facilitate assembly and production.

LITRESATURE REVIEW

Garbyal (2015) Researched the production of eri silk union textiles and angora/merino blends for clothing. The fibre content of union textiles was 70% angora and 30% merino. Union textiles were prepared using twisted angora/merino, 2ply untwisted angora/merino, and eri silk yarns. The results showed that silk yarn was finer than both the untwisted and twisted versions of the 2ply angora/merino. Silk's tiny fibres might be to blame. Since twists make yarn bulkier, 2ply twisted angora/ merino has a greater yarn count than 2ply untwisted angora/ merino. The twisted angora/merino yarn was heavier than the untwisted version of the same yarn. Fabrics made from the union of angora and merino, known as eri silk, were cheaper than those made from either animal alone. Pre-treated union textiles were determined to be appropriate for use in the production of apparel.

Saikia, Kalita and Kaur (2015) looked at how bamboo and silk may be blended into textiles. Three distinct ratios (20:80, 50:50, and 80:20) of blended bamboo and silk fibres at the carding and drawing step were analyzed. The cloth was made with a plain weave. When compared to other blends (20:80 and 50:50), the 80:20 mixture of bamboo and silk fibre proved to be the most effective for use in textile production. The potential for creating novel materials with a wide range of applications is greatly expanded when bamboo fibres are combined with silk.

Konwar and Kaur (2015) tallied the number of yarns in several eri and eri union textiles. Plain, twill, and satin were the three weaves used to create the eri x cotton, eri

x polyester, and eri union textiles. The warp was woven using 2/60s count eri yarn and the weft was woven with 2/40s count cotton and polyester yarns. Since the yarn count of eri yarn used in the warp direction of all the samples was the same, the warp count of all the union fabrics prepared from pure eri x eri, eri x cotton, and eri x polyester with plain, twill, and satin weaves was not very high (through variation was seen in the case of twill weave fabrics).However, the weft count differed across the union textiles. Fabrics with an eri x polyester plain weave counted the highest, while those with an eri x eri twill weave counted the lowest. Dresses, pillow covers, and jackets made with Eri union materials were judged to be the most wearable.

Pareet and Mahale (2015) created united handloom textiles using a cotton/silk floss combination. The Medleri charkha, a foot-powered spinning wheel, was used to spin yarn made from a combination of cotton and silk floss in three distinct ratios: 100 percent cotton, 50 percent silk, and 70 percent cotton. The warp was woven using cotton yarn, while the weft was woven with a mixed yarn. Cloth density was found to be greater in the cotton x silk floss control samples compared to the cotton x cotton/ silk floss (50/50 and 70/30). Union cloth that had been prepared for use as upholstery worked well.

Gautam and Goel (2014) researched the evolution of textiles including eri silk and yak hair. Fabrics were handwoven using a ratio of 65:35, 50:50, or 35:65 of pure hand-spun eri silk yarn combined with yak hair. There are five different kinds of prepared pure and mixed textiles. Easy blending with proportional qualities of both fibres at a low cost was discovered to be the perfect combination of eri silk and yak hair (50:50). The combination of eri silk and yak hair allows for the production of novel goods.

METHODOLOGY

Mashru themes, patterns, and procedures were collected and evaluated from a theoretical perspective. Find out whether the current ability to execute ancient methods of weaving and surface development such stripe pattern, Buttis, supplemental warp, weft, and Ikat is in line with the infrastructure, skill, and willingness of the craftsmen (rach maker, dyer, and weaver). Researchers discovered that since weavers had been using the same two patterns for so long, it would be difficult to persuade them to try anything new. Silk (mulberry) is one of Mashru's most significant traditional raw materials, but for many decades, workers in Patan and Kutch had focused only on rayon and cotton, limiting their interest in and skill with silk. The study's researchers persuaded the craftspeople and, at the same time, examined those who were more receptive to persuasion. There were less obstacles to implementation in terms of infrastructure than there were in terms of the desire of craftsmen and their ability in working with various materials, methods, and designs. When compared to Ikat and Butti Mashru, striped patterns were judged to be the most feasible option.

DESIGN AND DEVELOPMENT OF NEW MASHRU FABRICS

Mashru is now most well-known for its vibrant striped designs, which are often complemented with Butti and Ikat. It's also because most weavers aren't well-versed in both Ikat and the supplemental warp/weft method. In addition, one of the study's primary goals was to diversify Mashru's clientele by introducing new materials

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alongside the present one; hence, the design process focused on exploring a variety of options (described in Table 1).

TABLE 1 : BASIC FEATURES USED FOR DESIGN INNOVATION IN MASHRU

Basic features for innovation	Conventional approach	Extended approach for innovation
Material	Cotton, Rayon, Mulberry silk (rare case) warp.	Cotton, Rayon, Mulberry silk, *Tasar* silk, Korea silk warp, Combination of *Tasar* & Mulberry silk.
Production technique	Satin weave	Satin weave alone or with Brocade or *Ikat*
Product variation	Fabric width in 24/36 Inches Medium fabric weight Cotton offering soft & cool texture, rayon offering smooth, soft & silky texture, silk offering smooth & sleek texture.	Fabric width in 24/36/48 Inches Light to medium fabric weight Cotton offering soft & cool texture, rayon offering smooth, soft & silky texture, silk offering smooth & sleek texture, *Tasar* silk offering rich texture & gold gleam, Korea silk offering translucent texture and shine

Despite their shared belief in the importance of reviving traditional motifs in the commercial and niche markets, Patan weavers declined to make Butti in Mashru using extra weft because of a lack of harnesses, a reluctance to alter their current loom settings, and a lack of confidence in their ability to do so. Mashru fabrics were thus designed with five distinct warps to appeal to a larger cross-section of customers and to accommodate the artisans' preferences on the properties of the yarns they use in weaving. Raw materials were derived from the aforementioned debate, and design components were derived from the study of the third purpose, all of which contributed to the new design and development of Mashru fabric. As a result, raw material considerations permit classifying designs in progress as either "niche" or "commercial." Cotton, Mulberry silk, Tasar silk, and Korea silk were the four materials that made up the Niche group, while cotton and rayon made up the Commercial category. Cotton was included in both groups because of the expected methods of application and because of the artisan's perspective and prior knowledge in the field.

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TABLE 2 : SELECTION OF WARP IN COMMERCIAL AND NICHE CATEGORY OF MASHRU FABRIC IN REFERENCE TO CONSIDERED YARN DESIGN CHARACTERISTICS

Niche Category	Warp Variety	Visceral Yarn Design Characteristics	Behavioral Yarn Design Characteristics	Reflective Yarn Design Characteristics
	Mulberry silk, Tasar Silk, Korea silk, combination of more than one silk & Cotton	Color (bright), Texture (Luster)	Suitable yarn Count & ply, hand-feel, linear uniformity	Revival of dyeing technique (Ikat), motif & pattern, Hand-Spun, natural fiber,
Commercial Category	Rayon & Cotton	Color (bright), Texture (high Luster)	Suitable yarn Count and ply, hand-feel	Natural fiber, Manmade fiber

Samples from specific categories may be strategically positioned for the luxury market because to the present focus on eco-friendly clothing. Product variety may be strategically implemented via the strategic use of material diversification, the resurrection of silk, and other elements (weaver's competence and infrastructure).

TABLE 3: CHALLENGES WITHIN EACH DESIGN CATEGORY OF MASHRU AT KUTCH-BHUJ

Challenges within each design category at Kutch-bhuj					
Strip		***Ikat***		***Butti***	
Challenges	**Possibilities**	**Challenges**	**Possibilities**	**Challenges**	**Possibilities**
Only one *Mashru* weaver had competency to work with Mulberry silk, others were comfortable with cotton only	Dyeing was possible for rayon and cotton; weaving was possible for all cotton & Tasar silk.	Lack of resist dyeing facility at Kutch-Bhuj Incompetency to set resist dyed yarn on loom prior to weaving	Regular single colour dyeing in cotton, Mulberry and Tasar silk possible for ground yarn	Lack of competency in making appropriate *Rach* for *Butti* Lack of competency in making appropriate *Butti Mashru* using extra warp	Very competent in making *Butti Mashru* through supplementary weft

ANALYSIS OF THE MARKET ACCEPTABILITY OF DEVELOPED FABRICS IN TERMS OF YARN, COLOUR, DESIGN AND AESTHETICS

Google form was used to create the schedule. A digital invitation was sent for people to fill out the survey and share their thoughts on the new textiles. Respondents were also provided with some basic information on Mashru. Since feedback was going to be gathered electronically, location wasn't an issue. The researcher gave responders her phone number and email address so they could get in touch with her if they had any questions. Eighteen states responded to the survey. This method allowed us to reach a wider audience with information on Mashru and collect answers from individuals all around the country. There were a total of 236 replies, however only 230 were used for analysis (the other 6 were disregarded owing to insufficient data). Male, female, and non-Gujarat responses were separated.

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TABLE 4 : SELECTED RESPONDENTS FROM GUJARAT AND OTHER STATE

Sr. no.	State	Gender		No. of respondents
		Male	Female	Total
1.	Gujarat	31	30	61
2.	Other state	88	81	169
Total		119	111	230

Mashru cloth is widely utilized by both sexes in a variety of contexts, thus responses from people of both sexes were solicited. Both sexes use Mashru, and they have an impact on each other's purchasing decisions and habits. Therefore, it was essential to hear from both men and women. Importantly, the sample included an equal number of male and female respondents from both Gujarat and outside of Gujarat. This aided in providing a more nuanced picture of gender attitudes toward various measures of acceptance. Faculty, design students, homemakers, design pros, textile engineers, fashion designers, and costume designers made up the bulk of the respondents.

CONCLUSION

The research team settled on the verdict that Mashru was a significant Indian handloom textile since it was both a practical and aesthetically attractive fabric with considerable expansion potential. However, the declining number of skilled craftspeople has brought it to the brink of extinction. Its built-in methods are flexible enough to accommodate a wide range of projects in a wide range of budgets and visual vocabularies. Researchers in Mashru have created new textiles by resurrecting long-lost processes and improving upon established ones. There were three primary colorways to choose from. Researchers also experimented with incorporating Korea silk and Tasar silk into the warp of Ikat and Butti to get a different textural feel. Different styles made use of other fabrics, such as cotton and the exotic mulberry silk. Mulberry and tasar silk were used in warp for one of the Ikat textiles. Fabrics were generally well-liked by survey participants. Users expressed interest in incorporating them into clothing, home decor, and other lifestyle items.

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