Documentation of Garments in the Textile Art Museum: Preserving Heritage through Digital Cataloguing

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Documentation of Garments in the Textile Art Museum: Preserving Heritage through Digital Cataloguing

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FACULTY OF FAMILY AND COMMUNITY SCIENCES
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Ethical Compliance Certificate 2024-2025

This is to certify <u>Ms. Chinar Himanshu Vashi</u> study titled; "Documentation of Garments in the Textile Art Museum: Preserving Heritage through Digital Cataloguing ." from Department of Clothing and Textiles has been approved by the Institutional Ethics Committee for Human Research (IECHR), Faculty of Family and Community Sciences, The Maharaja Sayajirao University of Baroda. The study has been allotted the ethical approval number <u>IECHR/FCSc/M.Sc./10/2024/05</u>.

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This is to inform you that research work presented in this dissertation entitled *"Documentation of Garments in the Textile Art Museum: Preserving Heritage through Digital Cataloguing"* in pursuit of partial fulfilment of the Master's Degree in Clothing and Textiles is the original bonafide work of the student Ms. Chinar Vashi.

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ABSTRACT

India's cultural identity is deeply intertwined with its traditional textiles and garments, which have, for centuries, served as more than just attire. These clothes reflect identity, social status, occasion, and regional artistry. Among them, the blouse stands out as a vital component of women's traditional wear, embodying distinct cultural and design features across different regions. Indian garments are rich with stories, customs, and heritage passed down through generations, showcasing the country's vibrant textile legacy and diverse clothing styles. However, in the face of rapid modernization and fast fashion, many of these traditional garments are at risk of fading away. This makes it crucial to document and preserve them not only to honour the past but also to ensure that future generations can access and appreciate this cultural wealth.

This dissertation, "Documenting Textile Art Museum Garments: Preserving Heritage Through Cataloguing", was based on the need to protect and understand these important textile traditions. It focused on traditional blouses stored at the Textile Art Museum, The Maharaja Sayajirao University of Baroda. The study helped bring forward the hidden value of these garments by recording their features and the cultural stories behind them. The documentation process involved detailed garment observations, interviews with curators, and literature review. The aim of the research was to create a detailed catalogue that captures both the technical and cultural aspects of each blouse such as fabric type, embroidery, dyeing method, blouse cut, motifs, and traditional use.

The methodology encompasses four key phases: classification, data collection, digital pattern development, and cataloguing. The classification phase involves categorizing the blouses based on their design, materials, and cultural significance, providing a structured framework for analysis. The data collection phase employs a combination of qualitative and descriptive approaches, utilizing primary sources such as direct observation and questionnaire surveys of museum professionals, alongside secondary sources including books, journals, and digital archives. High-resolution photography and manual measurements are used to capture detailed visual and dimensional information about the garments.

Textile museums act as centers for preserving history and sharing knowledge about India's rich textile traditions. However, the study also uncovered the challenges faced by

these museums like limited staff, lack of funding, and absence of specialized training. It stressed the need for more collaboration between curators, researchers, designers, and technology experts to improve museum documentation.

A significant aspect of the study is the development of digital patterns using Richpeace software, enabling the accurate reconstruction and preservation of the garments' structural details. The final phase involves the creation of a comprehensive catalogue, integrating textual descriptions, visual documentation, and contextual information to enhance accessibility and understanding of the collection.

The findings of this research emphasize the crucial role of digital archiving in preserving textile heritage, reducing physical handling of delicate artifacts, and promoting broader access for researchers, designers, and the public. The study contributes to the field of textile preservation by providing a detailed, replicable methodology for documenting and safeguarding traditional garments, ultimately fostering a deeper appreciation for India's rich and diverse textile tradition.

CHAPTER I

INTRODUCTION

India has a long and vibrant history in textiles, with every region contributing unique fabrics, designs, and garments. Traditional Indian clothing, such as *sarees, ghagra-cholis, salwar-kameez* etc., holds deep cultural significance, representing local identities, professions, and ways of life. These garments showcase the artistry, craftsmanship, and traditions passed down through generations. They reflect India's diverse textile heritage, including weaving, embroidery, block printing, and dyeing techniques.

In India, where a wide variety of fabrics, embroidery, and weaving techniques have been handed down through the generations, textile museums are essential for preserving and promoting a nation's rich textile heritage. By showcasing the craftsmanship of small-scale artisans and protecting ancient textiles, these museums raise awareness of the artistry and skills required to create intricate handwoven textiles and embroidery, which in turn fosters appreciation for indigenous techniques. Additionally, museums with textiles provide fashion designers with inspiration by providing insights into historical clothing, patterns, and weaving techniques that have influenced modern fashion. They create a tangible link to the past, allowing designers to incorporate classic aspects into modern designs. Additionally, by supporting local artisans and promoting sustainable textile methods, these museums boost the economy by promoting handlooms and handicrafts. All things considered, textile museums play a critical role in public education, cultural identity preservation, and the advancement of the fashion and textile sectors. However, despite this wealth of traditional textiles, many historic garments remain undocumented in museums. Without proper documentation, their rich history and cultural value risk being lost over time. Women's blouses, in particular, are an essential part of traditional Indian attire, yet their documentation is often incomplete or missing in museum archives. Textile museums serve as important archives that preserve and exhibit historic garments, helping people understand the evolution of textiles and their cultural significance. These museums showcase a wide range of textiles, from ancient fabrics to modern innovations, providing valuable insights into how clothing, techniques, and designs have evolved over time. Through exhibitions, research programs, and conservation efforts, textile museums ensure that traditional textile knowledge is passed on to future generations. By allowing

visitors to see and experience textiles up close, these museums help in educating people about the skills, artistry, and societal influences behind textile traditions.

One such institution preserving India's textile heritage is the Textile Art Museum, located within the Department of Clothing and Textiles at The Faculty of Family and Community Sciences, The Maharaja Sayajirao University of Baroda. Established in the 1960s, the museum was founded to promote and preserve India's traditional textiles. Under the leadership of Prof. Savitri Pandit, an alumna of the university, the museum has built an extensive collection through donations and contributions from faculty and researchers. Today, the museum houses over 500 textile pieces, categorized into four main sections: Woven Textiles, Embroidered Textiles, Printed and Painted Textiles and Costumes.

The museum's collection includes rare block-printed fabrics, resist-dyed textiles, sacred hand-painted pieces, tribal garments, and nine major embroidery styles of India. These exhibits, displayed in both open and closed formats, provide valuable knowledge for scholars, designers, and educators studying traditional textiles.

Plate 1.1: Textile Art Museum, Department of Clothing and Textiles, Faculty of Family and Community Sciences, The Maharaja Sayajirao University of Baroda, Vadodara

Despite its vast collection, the museum has yet to comprehensively document many traditional garments, particularly women's blouses. These blouses showcase regional craftsmanship, unique fabrics, and intricate embellishments, representing different historical periods and cultural traditions. However, due to a lack of systematic documentation, researchers and curators face challenges in studying and preserving them.

Documentation plays a vital role in preserving textiles and ensuring their accessibility for study, research, and public education. Museum documentation involves the systematic recording of textiles, capturing essential details about fabric, design, and historical significance. It also includes cataloguing and archiving to facilitate easy retrieval while enhancing public accessibility for educational and research purposes. Without proper documentation, valuable information about historical garments risks being lost, making it challenging for future generations to study, appreciate, and understand their cultural and artistic significance.

With advancements in technology, digital cataloguing has become an essential tool for museum record-keeping. Creating digital archives of textiles offers several benefits:

- Preservation: Digital records ensure that textile information is stored safely without the risk of physical damage.
- Accessibility: Scholars and researchers from around the world can study these garments without needing to visit the museum.
- Efficient Management: Museum collections can be organized systematically, allowing for better research and analysis.

By focusing on digital documentation, the Textile Art Museum can bridge the gap in documenting traditional garments, particularly women's blouses, and make them accessible to a wider audience.

This research aims to bridge the documentation gap by creating a structured digital inventory of traditional women's blouses from the Textile Art Museum's collection. By leveraging digital tools, the study seeks to enhance museum documentation practices and contribute to the preservation of India's textile heritage. The dissertation examines the procedure of digitally cataloguing and recording blouses that have not yet been documented, ensuring that their fine details and cultural significance are systematically preserved. Through this initiative, the research aspires to improve museum documentation techniques while safeguarding these valuable pieces of history, making them accessible and appreciated for generations to come. This study also emphasizes the role of digital pattern-making in the documentation process. Digital pattern-making plays a crucial role in preserving the structural and design intricacies of traditional blouses. By creating precise, scalable digital patterns, this method enables a more detailed and

accurate representation of garment construction. It also facilitates the replication of historical designs for educational purposes and future reproduction. Furthermore, digital patterns allow museums to archive and share garment blueprints with researchers, designers, and the public, fostering a deeper understanding of India's rich textile heritage. Incorporating digital pattern-making not only enhances the accuracy of documentation but also ensures these cultural artefacts can be studied, recreated, and appreciated beyond physical limitations.

1.1 PURPOSE OF THE STUDY

The purpose of this research was to document and digitally preserve traditional garments from the Textile Art Museum, addressing key challenges such as limited documentation, garment fragility, restricted accessibility, and the underutilization of modern technology in textile museums. The absence of comprehensive digital records for many traditional garments made it difficult to research, preserve, and share these valuable artefacts with a broader audience. Frequent handling and display could lead to physical damage, yet alternative preservation techniques were not widely adopted. Additionally, many significant pieces remained inaccessible to the public due to the museum's inability to exhibit every garment simultaneously.

This study aimed to overcome these challenges by creating thorough digital archives that reduced the need for physical handling and minimized the risk of deterioration. By integrating digital pattern-making technology into museum practices, the research promoted sustainable preservation methods while enhancing the accuracy and efficiency of documenting intricate garment structures, cuts, and styles. Compared to manual drafting on paper, which was time-consuming and requires extensive physical effort, digital tools offer a faster, more precise, and energy-efficient alternative. Digital software allows for quick modifications, precise measurements, and error correction, streamlining the pattern-making process while ensuring that delicate artefacts remained protected.

A key focus of this research was the development of digital patterns of vintage blouses, which served as a reference for future pattern-making. This approach ensured that traditional blouse construction methods are studied, adapted, and integrated into modern fashion and design, fostering a connection between heritage and innovation. Furthermore, digital archives facilitate global collaboration by allowing digital files to be shared and

analyzed across institutions, thereby expanding access to cultural heritage and supporting the conservation of intangible traditions.

Ultimately, this research encouraged museums to adopt contemporary documentation technologies for systematic organization, analysis, and preservation. It aimed to expand knowledge on traditional garment construction, materials, and techniques, ensuring that these practices were not only preserved but also adapted for contemporary use. By promoting digital pattern-making, the study contributed to the long-term preservation of India's rich textile heritage, making it more accessible for educational, cultural, and innovative design purposes. This work was part of a broader initiative to bridge the gap between heritage and technology, ensuring that traditional garments were not only safeguarded but also appreciated and reinterpreted for future generations.

1.2 OBJECTIVES OF THE STUDY

1. To study, analyse, and document the garments in the Textile Art Museum in terms of their place of origin, colour, fabric, ornamentation, and style features.
2. To create digital patterns of the garments using drafting instructions.
3. To prepare a comprehensive catalogue of the documented garments.

1.3 DELIMITATION OF THE STUDY

- The study focused on garments, specifically blouses, that were not documented in the "Textile Art Museum," Department of Clothing and Textiles, Faculty of Family and Community Sciences, The Maharaja Sayajirao University of Baroda, Vadodara.

CHAPTER II

REVIEW OF LITERATURE

The review of literature for this study aimed to establish the current state of knowledge on the topic, identify gaps in existing research, and provide insights into methodologies and findings. It had been compiled from various sources, including books, journals, articles, and websites. It had been broadly classified into two sections:

2.1. Theoretical Review

2.1.1. Importance of Textile Museums

2.1.2. Textile Museums of India

2.1.3. Documentation in Museum

2.1.4 Textile Deterioration

2.1.5 Storage and Handling

2.2. Research Related Review

2.2.1 Research on Textile Documentation

2.2.2 Methods of Documentation

2.2.3 Pattern Development

2.2.4 Digital Pattern Making

2.2.5 Methods of Cataloguing

2.1. Theoretical review

2.1.1. Importance of Textile Museums

In order to preserve and present the rich legacy of textile customs, methods, and craftsmanship, textile museums were essential. They function as research and educational hubs, provided important insights on the sociocultural relevance, history, and development of textiles in various locales and eras. In addition to showcasing the artistry, materials, and production methods employed, these museums guaranteed the continuation of textile history for future generations by recording and conserving traditional and historic textiles. A greater comprehension of textile history and advancements was made possible by the platform they offer for researchers, designers, students, and scholars to examine rare textile collections, tools, and historical documents. Textile museums also told stories about the socio-economic and cultural significance of textiles, including their usage in daily life, trade, and rituals, as well as how the manufacture of textiles had changed from being done by hand to being done by machines. By showcasing traditional weaving, embroidery, dyeing methods, and materials, these establishments inspire current designers, artists, and craftspeople and contribute to the fusion of tradition and creativity. Additionally, they were essential in preserving endangered textile traditions, assisting artisan communities, and promoting local and indigenous crafts. The ability of textile museums to document and exhibit collections online thanks to developments in digital technology has increased accessibility to textile heritage while guaranteeing its long-term preservation. Overall, textile museums are invaluable in bridging the past and present by preserving textile traditions, educating future generations, and inspiring creativity while fostered appreciation and awareness of diverse textile cultures worldwide. (*Handbook of Museum Textiles, Volume 1: Conservation and Cultural Research.*)

Figure 2.1: Chronicle of an artefact; from acquisition to display

Source:https://www.researchgate.net/publication/341651353_CONSERVATION_OF_TEXTILES_IN_MUSEUMS

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2.1.1.1 Museum Definition

The word *museum* originated from the Latin *muses*, meaning "a source of inspiration." Museums were institutions that preserve, research, and exhibited objects of scientific, artistic, and historical significance for public education and enjoyment. Museums existed due to human curiosity, historical connections, and the desire to collect and preserve valuable objects for learning and cultural enrichment. (*Handbook of Museum Textiles, Volume 1: Conservation and Cultural Research.*)

2.1.1.2 Educative Value

Museums served as vital educational institutions, offering interactive learning experiences beyond traditional methods. They housed diverse collections, including art, history, and textiles, while also providing access to rare research materials. Museums enhanced knowledge through exhibitions, presentations, and hands-on experiences. They also collaborated with academic institutions for research and innovation. Modern museums went beyond preservation, fostering creativity, cultural exchange, and experiential learning, making education engaging and immersive. (*Handbook of Museum Textiles, Volume 1: Conservation and Cultural Research.*)

2.1.1.3 Economic Value

Museums played an important role in the economy by promoting tourism, offering job opportunities, and supporting cultural businesses. As vibrant hubs for cross-cultural interaction, museums drew big crowds and play a vital role in the local business and hospitality industries. According to studies, museums indirectly increased local economic activity while making a sizable profit from entrance fees, gift sales, and other services. For instance, the Guggenheim Museum Bilbao increased foreign visitor foot traffic by 44% while transforming a no tourist area into a vibrant cultural hotspot. Similar to this, the National Handloom and Handicraft Museum in New Delhi drew designers, students, and foreign consumers by preserving traditional Indian crafts and giving craftspeople a stage on which to display their abilities. These exchanges highlight the wider economic value of museums beyond preservation and display by assisting craftspeople in securing new markets and maintaining their craft. In addition to their tourism-related functions, museums created jobs in a variety of fields. They provide a variety of work options for both qualified professionals and volunteers by offering positions in curation, conservation, education, marketing, and security. Museums need a multidisciplinary

workforce, from exhibition coordinators who plan and organize exhibitions to conservators who utilize scientific procedures to restore and conserve items. Experts in media, documentation, and information technology are needed as a result of the increased focus on digitalization. Through workshops, seminars, and cooperative projects, museums also aid in education and skill development, influencing upcoming cultural preservation professionals. By functioning as cultural and economic engines, museums reinforce their importance as institutions that not only safeguard heritage but also stimulate job creation and economic growth. (*Handbook of Museum Textiles, Volume 1: Conservation and Cultural Research*.)

2.1.1.4 Functions of Textile Museum

Textile museums served purposes beyond merely displaying artefacts. Their key functions include:

- Collection & Documentation**:** Through purchases, gifts, loans, or exploration, museums were able to acquire historical, scientific, and artistic textile objects. Records pertaining to composition, origin, and preservation requirements were kept for every work.
- Conservation & Preservation: To shield textiles from environmental elements like light, dust, and grime, scientific techniques were employed. Longevity is guaranteed by curative and preventive conservation methods.
- Storage & Labelling: To reduce handling and make show rotation easier, museums created customized storage plans utilizing archival materials and appropriate labelling.
- Research & Scientific Study: To help academics and students, museums carried out research for publishing, documentation, conservation methods, and instructional reasons.
- Exhibitions & Interpretation: Thematically designed displays were thoughtfully chosen to provide visitors cultural insights, visual delight, and education.
- Collection Stewardship: Priceless textiles were shielded from harm, theft, and vandalism by security systems like CCTV and alarms.
- Public Services & Collaborations: Through workshops, events, designer displays, and presentations of traditional folk art, museums interacted with the public. (*Handbook of Museum Textiles, Volume 1: Conservation and Cultural Research*.)

2.1.1.5 Categories of Museums

Museums were categorized based on their focus areas. History museums displayed artefacts related to natural history, such as the Natural History Museum in London. Biographic museums housed items belonging to famous figures, like the National Gandhi Museum in New Delhi. Art museums showcased fine art collections, exemplified by the Baroda Museum & Picture Gallery. Science museums explored advancements in science and technology, with examples like the Great Lake Science Centre in Ohio. Transport museums featured exhibits on various modes of transportation, such as the National Railway Museum in New Delhi. Textile & handicraft museums preserved antique textiles and crafts, like the Calico Museum in Ahmedabad. Lastly, University museums were managed by educational institutions, such as the Ashmolean Museum at the University of Oxford. (*Handbook of Museum Textiles, Volume 1: Conservation and Cultural Research*.)

2.1.2. Textile Museums of India

Established by Sayajiroa III in 1879 A.D., the Baroda Museum and Picture Gallery at Sayaji Baug, also known as Kamati Baug, is one of India's most renowned museums. Covering an impressive 113 acres, it is one of the country's most prestigious museums. The construction of the Picture Gallery building in 1910 substantially improved the R. F. Chisholm architectural layout. Its walls hold an outstanding collection of original artworks, including pieces by well-known British artists such as Turner, in addition to other noteworthy exhibits. The fascinating exhibit of an Egyptian mummy and the skeletal remains of a blue whale are two of its attractions. In addition, visitors can view Mughal miniatures, Tibetan artworks in a special gallery, and Akota bronzes. With its extensive collection of sculpture, art, ethnography, and ethnology, the museum is a veritable gold mine of cultural heritage. (*Vadodara Municipal Corporation*, n.d.)

Plate 2.1: Baroda Museum and Picture Gallery

Source: https://barodamuseum.gujarat.gov.in/

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The Kachchh Museum, founded in 1877 by Maharao Khengarji, is the oldest museum in Gujarat. It holds the largest collection of Kshatrapa inscriptions from the 1st century AD and examples of the extinct Kachchhi script, now written in Gujarati. The museum features a collection of coins, including Kachchh's local currency, the *kori*. It also showcases tribal artifacts, folk arts, crafts, and exhibits on embroidery, paintings, arms, musical instruments, sculpture, and precious metalwork. While the museum provides valuable insights into Kachchh's tribal and folk traditions, visiting local homes and families enriches the understanding of these living cultures. (*Kachchh Museum*, n.d.,)

Plate 2.2: The Kachchh Museum

Source:https://www.gujarattourism.com/content/dam/gujrattourism/images/museums/kutch-museum/Kutch-Museum-Banner.jpg

Associated with the Sarabhai Foundation galleries, the Calico Museum of Textiles in Ahmedabad is home to a wide range of cultural items, such as Indian miniature paintings, sculptures, Jaina texts, and religious bronzes. The museum was inspired by Dr. Ananda Coomaraswamy and was founded in 1949 in Ahmedabad, India, by Gautam and his sister Gira Sarabhai. It was first located inside the Calico Mills complex, but in 1982 it relocated to the Sarabhai Foundation's Shahibaug property. Modularity, lightness, and flexibility define its display design, which promotes a tasteful blending of colours, textures, and images. Rejecting artificial distances and formalities linked with its exhibitions, the
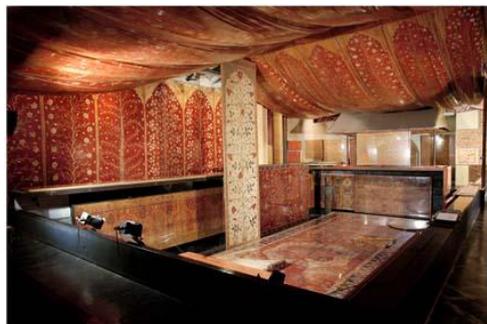
Plate 2.3: Calico Museum of Textiles

Source: https://www.calicomuseum.org/visiting-the-museum-galleries/

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museum strives to create an intimate atmosphere by emphasizing spectators' proximity to it. Prominent academics have studied and documented the Sarabhai Foundation collections in great detail, making a substantial contribution to the subject of modern Indian textile studies. The museum's catalogues, which include a variety of study booklets, greeting cards, fabric replicas, and posters for sale, are invaluable tools for both enthusiasts and academics. (*The Calico Museum of Textiles*, n.d.,)

The Maurice Gwyer Committee established the National Museum, New Delhi, in 1946 after a successful Indian artifacts exhibition in London. Opened in 1949, it now houses 2,000 objects spanning 5,000 years of Indian civilization. Initially overseen by the Director General of Archaeology, it became autonomous in 1957 under the Ministry of Education. The museum preserves cultural heritage and promotes public awareness as a national icon. (*National Museum, New Delhi*, n.d.,) The Textiles Gallery exhibits a collection of Indian traditional textiles from the Later Mughal period, showcasing cotton, silk, and woolen textiles that are woven, printed, dyed, and embroidered. A notable section within the gallery is the Royal Chamber, which highlights the opulent use of textiles in royal settings. The chamber features an embroidered silk carpet on the floor, a cloth ceiling, and printed wall coverings that envelop the space in grandeur. Additionally, the pillows are adorned with intricate *buttis* and zardozi work, reflecting the exquisite craftsmanship of the era. (*Wikipedia contributors.2024, December 12, National Museum of India.*)

Plate 2.4: National Museum, New Delhi
Source: https://delhitourism.travel/national-museum-of-india-delhi#google_vignette

The Raja Dinkar Kelkar Museum in Pune, Maharashtra, is a one-man collection by Dr. D.G. Kelkar (affectionately known as Kaka), was dedicated to his son Raja, who passed away untimely. Dr. Kelkar amassed around 22,000 artifacts over sixty years, reflecting everyday life in India. The collection includes lamps, palanquins, carved woodwork,

musical instruments, miniature paintings, and textiles, showcasing the creativity of Indian craftsmanship. Notable pieces include the Mastani Mahal, which tells the love story of Bajirao Peshwa I and Mastani, as well as over 500 costumes, including rare paithanis, garo, chamba rumals, and beadwork, from across India dating back to the 18th and 19th centuries. (*Raja Dinkar Kelkar Museum*, n.d.)

Plate 2.5: The Raja Dinkar Kelkar Museum

Source: https://www.hindustantimes.com/cities/pune-news/raja-dinkar-kelkar-museum

The City Palace in Jaipur, home to the Maharaja Sawai Man Singh II Museum**,** was built between 1729 and 1732 under Maharaja Sawai Jai Singh II, with later additions by the Kachwaha Rajput clan. It serves as the royal residence and a cultural hub for arts, learning, and worship. The museum houses an extensive collection of over 2,700 textiles spanning 350 years, from the late 16th to the mid-20th century, showcasing the artistic legacy of the Kachhwaha rulers. Notable sections include the Textile gallery, Sarvatobhadra pavilion, Sabha Niwas, Sileh Khana, and the Painting and Photography gallery, all highlighting the royal family's patronage of Indian textiles and artistry. *(Jain & Museum, 2016)*

Plate 2.6: Maharaja Sawai Man Singh II Museum

Source: https://shop.museumsofindia.org/sites/default/files/2017-12/DSC00330.JPG

The Textile Museum at The City Palace Museum, Udaipur, houses an exquisite collection of traditional garments and textiles from the Mewar royal family including Angrakhas,

Chogas, Ghagras, Cholis, shawls, elaborately woven shawls, embroidered sarees, royal children's clothing, and accessories like caps are all part of the assortment.

The museum also features silk chair coverings, ornate door hangings, and richly embroidered rugs. The museum is located in the 450-year-old City Palace and was founded in 1969 by Maharana Bhagwat Singh of Mewar under the auspices of the Maharana of Mewar Charitable Foundation (MMCF) developing a major cultural repository during the last 50 years, drawing tourists from all over the world. *(City Palace Museum Udaipur. n.d.).*

Plate 2.7: The City Palace Museum

Source: https://en.wikipedia.org/wiki/City_Palace,_Udaipur

Mehrangarh Museum Trust, established in 1972 by the 36th Custodian of Marwar-Jodhpur, H. H. Maharaja Gaj Singhji, is India's largest cultural organization dedicated to conserving the artistic and cultural history of central Rajasthan, Marwar-Jodhpur. The museum has one of the most important and best-preserved collections of fine and applied arts from the Mughal period, illustrating the strong relations between the Rathore rulers of Jodhpur and the Mughal emperors. The biggest collection of late Mughal textiles in the world, which includes tents, tent walls, canopies, hangings, and floor spreads from the late 17th to mid-18th century, is one of its most valued assets. The collection is further enhanced with clothing, floor coverings, and furniture from the late 18th to early 20th centuries, which highlight the exquisite workmanship of imperial workshops' expert weavers, embroiderers, and dyers. The Trust has won the UNESCO Asia-Pacific Award for Architectural Conservation, Cultural Heritage, and Adaptive Reuse and actively promotes conservation, restoration, the arts, music, and scholarly research in addition to the museum. *(Mehrangarh Museum Trust, 2023)*

Plate 2.8: Mehrangarh Museum Trust
Source: https://www.mehrangarh.org/explore/

2.1.3. Documentation in Museum

Museum documentation was essential for effective management, acquisition policies, and research. With worldwide museum improvements, documentation techniques have changed and grown in significance. Professional organizations that had developed standards and recommendations for bettering museum documentation include ICOM-CIDOC, MDA, J. Paul Getty Trust, and CHIN. To provide a thorough documentation system that was compatible with digital technologies, the National Mission on Monuments and Antiquities (NMMA) was established in 2007. The NMMA sets standards for recording built heritage, sites, and antiquities, including digital photography in uncompressed TIFF format, acceptable backdrop photography, and MS Excel documentation. The MOC implemented "museum digitization" programs throughout the 12th Plan period (2012–2017) in an effort to enhance museum operations by removing core barriers and creating specialized management domains. These plans included the purchase of hardware, the creation of digital catalogues, the digitization of collections management systems, the photography of artwork, the creation or renovation of museum websites, online libraries, and interactive information. *(Roy, 2015)*

2.1.4 Textile Deterioration

Museum textiles, were made from any one or a combination of different natural and manufactured materials, wered highly vulnerable to natural and human-induced deterioration. Natural factors like light, temperature fluctuations, humidity, pests, and pollutants weaken fibres, cause fading, shrinkage, and promoted mold growth. Human-created factors such as mishandling, neglect, poor storage, accidents, and fire hazards further accelerate damage through mechanical stress, stains, and improper preservation. To prevent deterioration, proper handling, controlled environmental conditions, pest

management, and appropriate storage techniques are essential for safeguarding textile artefacts for future generations. *(Ananda Coommaraswamy, 2021)*

2.1.4.1 Forms of Textile Deterioration

The document, supported by the Tata Trusts Art Conservation Initiative, provided an extensive classification of textile deterioration, detailing various forms, causes, and effects to aid conservation efforts. Structural deterioration was categorized into major and minor damages**.** Major structural deterioration included holes, missing parts, tears, splits, and shattering, often caused by pests, natural disasters, chemical spills, or mishandling**,** making textiles weak and fragile. Minor structural deterioration**,** such as loose attachments, weave distortions, creasing, crushing, small holes, sagging, and missing elements, results from improper storage, human intervention, and environmental fluctuations**.**

Plate 2.9: Holes in the Fabric
Source: https://www.tatatrusts.org/upload/pdf/textiles-16102023.pdf

Plate 2.10: Unintended lines formed in textile by crushing or folding.
Source: https://www.tatatrusts.org/upload/pdf/textiles-16102023.pdf

Chemical deterioration occurred due to reactions at the molecular level, affecting fiber integrity. Corrosion and tarnishing impacted textiles with metal embellishments, while perishing, desiccation, and brittleness resulted from environmental conditions, poor

storage, and pollution. Yellowing, rust stains, foxing, and powdering indicated fiber breakdown caused by oxidation, pollutants, or improper cleaning methods.

Biodeterioration, caused by biological agents, included pest infestations from carpet beetles, clothes moths, silverfish, and rodents, which fed on fibers, causing holes and disintegration. Mold growth thrived in humid conditions, weakening fibers and leading to discoloration and foul odors. Urine stains, sweat, bodily fluids, and blood also contribute to fiber breakdown, discoloration, and potential health hazards. Surface deterioration affected the visual integrity of textiles. Pile loss, bruising, abrasion, and fading occur due to mechanical wear, light exposure, and improper handling. Discoloration, detached decorations, and paint loss resulted from prolonged environmental exposure and material degradation.

Accretions, or foreign deposits on textiles, included dust, soil, stains, adhesives, wax, and bird droppings, which caused stiffening, discoloration, and attract pests. Improper framing could also contribute to degradation due to acidic materials or condensation-related damage. Disfigurement, included with colour changes, singeing, distortion, and pilling, alters the aesthetic and structural properties of textiles, often due to aging, mishandling, and improper storage. Old and historic repairs, such as misalignment, incorrect reconstruction, breakdown of past conservation efforts, unsightly repairs, and patches, could either help stabilize textiles or, if poorly executed, cause further deterioration. *(KALSI et al., n.d.)*

2.1.4.2 Natural factors leading to textile deterioration

1) Incorrect Temperature

All organic materials deteriorated more quickly at high temperatures, which was practically significant for fabrics such weighted silk that are chemically fragile. Early synthetic fabrics that could develop internal acidity were also at risk, as were unwashed, acidic cellulosic textiles (cotton, linen) that had been exposed to pollution. For textiles, low temperatures (5°C and below) offered numerous advantages. In addition to lowering chemical deterioration, they significantly lower the frequency of pests. Treating textiles for pest infestation at -30°C was recognized to pose no risks. However, it was not advisable to freeze painted textiles. Only when low temperatures result in high relative humidity and dampness does it become an issue. That can happen if textiles were kept in

a poorly ventilated area and the temperature drops suddenly or if the storage cabinets were pressed up against a chilly wall outside.

2) Incorrect Relative Humidity

Textiles absorbed and released water vapor from the air in response to changes in relative humidity (RH). Fibers could swell, adhesives could fail, colours could transfer, mold could grow, and metal trim could corrode and discolour cloth due to high relative humidity levels. High relative humidity also hastened the light-induced fading of many colours. Although textiles could withstand a large range of relative humidity, excesses could be dangerous. Fibers swell at high relative humidity and shrink at low relative humidity. While woven organic textiles with stiff twist yarns or edge restrictions might tear during fluctuation, those lacking these features could tolerate mild RH changes. Both cellulosic and protein textiles were impacted by high relative humidity, which promoted the growth of mold. Fibers might also become more susceptible due to the presence of finishes, stains, or soils. The development of microbes weakened and discoloured textile fibers, which might occasionally result in their destruction. Even without a sealed enclosure, there were significant concerns, particularly in humid situations, if air was trapped in stagnant pockets.

3) Pests

Collections of textiles and costumes are particularly vulnerable to insect attacks because, in addition to providing food for certain insects, they might also serve as a home because these items are frequently kept in dark, undisturbed spaces that are sought after by insects. Particularly harmful were clothes moths and carpet beetle larvae, which could attack silk, cotton, and synthetic materials if soil was present or if the fabrics obstruct their path to food. They could also perforate and eat wool or other keratinous protein fibers, such as feathers and furs. In order to reach a food supply, like the starch sizing of cotton or paper, other insects, such cockroaches and silverfish, would rip materials. In addition to uneven areas where the nap or pile was missing a phenomenon sometimes referred to as "grazing" holes in wool fabrics frequently indicated insect infestation. Observed the actual larvae, insect webs and casings (which frequently contain fecal pellets that might be the same color as the textile), lost larval skins, eggs, frass, and the appearance of adult insects were other indicators of insect activity.

Plate 2.11: Holes in Fabric due to insect attack

Source: https://www.canada.ca/en/conservation-institute/services/preventive-conservation/guidelines-collections/textiles-costumes.html

4) Light and Ultraviolet

Exposure to visible and UV light deteriorated textiles, with damage depending on intensity, duration, and UV proportion. Light damage was cumulative and irreversible**,** affecting fiber strength and color stability. UV radiation was especially harmful, causing yellowing, fiber weakening, and dye fading, with high levels found in daylight, HID lamps, and fluorescent lights**,** while incandescent bulbs and most LEDs emit little to no UV radiation**.** Visible light faded dyes and natural fibers, while infrared radiation (heat) accelerated aging by drying out textiles. Both types of light were harmful and the following was caused

- Fading: A photo-oxidation process involved reactions with visible and ultraviolet light, fading of colours was a typical type of light damage to textiles. Both manufactured and natural dyes were extremely delicate and quickly fade. While limiting exposure times was essential to maintain delicate colours, lowering light levels could extend the enjoyment of colours. For most hues, the rate of change was rapid at initially then gradually slows down. Compared exposed and protected areas were the greatest way to observe fading, which might not be apparent until irreparable harm had been done.

Plate 2.12: Fading of a blue-dyed fabric due to exposure to light while on display

Source: https://www.canada.ca/en/conservation-institute/services/preventive-conservation/guidelines-collections/textiles-costumes.html

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- Fiber Damage: UV light was the primary source of fiber damage, which was brought on by the process of photo oxidation, sometimes referred to as photo tendering, which weakened and embrittled fibers. Moisture and metal ions (often used as mordants) functioned as catalysts to the chemical processes, accelerated photochemical damage like that. Some conventional dyes could make the issue worse. Because of the weighting agents, weighted silks would experience severe photo deterioration and may even practically self-destruct in a short period of time. Silk was the most susceptible natural fiber to visible and ultraviolet light damage, whereas flax was the most resilient. Acrylic was the most resistant manufactured fibre, while nylon and elastomeric materials, such as spandex, were the least resistant.

Plate 2.13: Shattered weighted silk costume

Source: https://www.canada.ca/en/conservation-institute/services/preventive-conservation/guidelines-collections/textiles-costumes.html

- Yellowing: Yellowing was a sign that fibres have been exposed to light, especially ultraviolet light, which had caused photo oxidation. When heat and moisture were present, these processes speed up. Along the fold lines where the fibers were more exposed to the environment, yellowing was frequently visible. Numerous fibers, such as wool, silk, cotton, linen, jute, rayon, and nylon, become yellow when exposed to ultraviolet light. *(Canadian Conservation Institute)*

Plate 2.14: Yellowing at the fold line of cellulosic textile due to photo oxidation

Source: https://www.canada.ca/en/conservation-institute/services/preventive-conservation/guidelines-collections/textiles-costumes.html

- Change in Colour: When textile materials are exposed to sunlight or chemical reactions, they can become discoloured and change colour. Discoloration usually consumes white or light-coloured materials, but it can also affect darker coloured products, manifesting as stains that are yellow, brown, blue, red, or orange. Padding cloth, collars, folded edges, sewing threads, sections that come into contact with packing materials or fabric hangers, or the entire product itself are frequently impacted.

Plate 2.15: Velvety growth of mould on a textile
Source: https://www.canada.ca/en/conservation-institute/services/preventive-conservation/guidelines-collections/textiles-costumes.html

5) Moulds

Mould breakout in wet environments could arise when there was no air movement. Whether you notice fuzzy growth, lingering stains on fabrics, or a musty smell in the air, it is a sign of potential mould damage. (*Things to Note About Down Product Discoloration*, 2021)

Plate 2.16: Velvety growth of mould on a textile
Source: https://www.canada.ca/en/conservation-institute/services/preventive-conservation/guidelines-collections/textiles-costumes.html

2.1.4.3 Human factors leading to textile deterioration

1) Perspiration

Perspiration significantly contributed to fabric deterioration due to its chemical composition and interaction with textiles. Sweat contains salts, acids, and minerals, which, when absorbed by fabric, could lead to discoloration, fiber weakening, and

eventual fabric breakdown. Over time, perspiration could cause stiffening, yellowing, and even holes in delicate materials like silk. *(Wildfire & Wildfire, 2023)*

Plate 2.17: Perspiration stain under the armpit
Source: https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcSjMsLG--GjIt94whUTu3f2VenUy25aAJytEw&s

2) Physical Forces

Textiles could suffer from physical damage such as holes, tears, distortions, losses, and splits. Stress on fibers could cause sharp creases along fold lines to break. Another frequent problem with textile items were tearing brought on by stress. Because of their composition, familiarity, and previous history, historical textiles which were sometimes thought of as robust and resilient were susceptible to deterioration. Because of wear and use, the threads that held decorative items like beads and sequins may have weakened, making them highly vulnerable to loss. Gravity can distort heavy flat textiles on vertical exhibition without sufficient support or costumes on ill-fitting mannequins. Mounting a costume on a mannequin, even with careful treatment, might cause excessive strain on some areas of the garment. Over time in travel, direct physical forces like shocks or vibrations can cause abrasion.

Plate 2.18: Delicate crepe fabric has become distorted and torn around red faceted cut glass faux jewels due to the weight of the ornamentation
Source: https://www.canada.ca/en/conservation-institute/services/preventive-conservation/guidelines-collections/textiles-costumes.html

3) Water

Textile collections might sustain significant damage from unintentional wetness from floods, roof leaks, and other events. Water damage could result in soiling, staining, corrosion, contamination, straining, tearing, shrinkage, loss of flexibility, and the creation of tide lines. Reversing these damages becomes challenging or impossible if they were allowed to dry out without treatment. Both natural and some synthetic fibers could become swollen and deteriorate more quickly due to chemicals or biological agents when too much water seeps through. Textiles might have bacteria on them as a result of contamination or recent exposure to sewage in floodwaters or stagnant water. Because wool fibers might absorb a lot of water, they were especially vulnerable to mechanical harm when wet.

Plate 2.19: Tide lines have formed on this textile

Source: https://www.canada.ca/en/conservation-institute/services/preventive-conservation/guidelines-collections/textiles-costumes.html

4) Pollutants

Solid pollutants like dust and particles, which could react chemically with fiber or color, were primarily found in textiles. Soil, soot, sulfate, nitrate compounds, dust, salt, and trace metals were the examples of common solid pollutants. Textile items could also be harmed by liquid contaminants including plasticizers, oils, food and water stains, and use-related stains. Over time, oxidation of stains could result in breakage, fiber weakening,

Plate 2.20: Soiling on the fabric surface

Source: https://www.canada.ca/en/conservation-institute/services/preventive-conservation/guidelines-collections/textiles-costumes.html

and deformity. The characteristics of fibers could be impacted by degradative chemical processes on their surfaces brought on by gas pollutants such as sulfur dioxide, nitrogen dioxide, hydrogen sulfide, and ozone gases from automobile and industrial emissions. *(Canadian Conservation Institute, 2024)*

2.1.4.5 Categories of Deterioration

Regardless of whether the object was complete, incomplete, or fragmentary, the following descriptions applie to it. Murdock (2012) stated that the CCS (collection condition survey) report evaluated the condition of the objects the conservator had examined, established treatment requirements, and prioritized treatment based only on physical condition and associated risks.

- Excellent: No damage or deterioration. No treatment needed; no change would occur with good preventive conservation practices in place (such as a pristine porcelain plate).
- Good: Minor damage and no active deterioration. No change would occur with good preventive conservation practices. Minor cosmetic treatment might be needed before exhibit (such as heavily used historic objects)
- Fair: Some damage and/or slow but active deterioration. Treatment might be needed to stabilize or before object is exhibited (such as a decorative ceramic object with losses to the rim, or slowly rusting iron objects).
- Poor: Significant damage and/or active deterioration. Treatment was needed to prevent additional damage or deterioration (such as a table with one leg missing, making it structurally unstable or an archaeological copper alloy object with "bronze disease"). *(National Park Service, 2012)*

2.1.5 Storage & Handling

2.1.5.1 Handling

Because textiles were so vulnerable to physical stress and deterioration, proper handling was crucial to maintain their longevity and integrity. Costumes and delicate materials should be placed horizontally to reduce strain, and textiles should always be properly supported to avoid harm from their own weight. Since activities like twisting, pulling, and rubbing could gradually damage fibers, it was imperative to minimize direct contact

and needless movement. Additionally, because human skin's natural oils and pollutants could hasten deterioration, textiles should never be handled or worn extensively. To keep textiles, stable and avoid structural damage, careful planning was required while exhibiting, loaning, or moving them. By implemented meticulous handling techniques and preventive measures, museums and conservators could ensure the long-term preservation of historical and valuable textile collections. *(Bede et al., 2001)*

- Always wash your hands with soap and water before touching any antique textiles.
- Avoid the use of lotions or perfumes because the oils could stain and further damage the item.
- Remove any jewellery that could snag or catch on the fabric.
- Handle the fabric as little as possible. If you must move the textile, completely support it using acid free paper or an old bed sheet. If it is a large object, such as a quilt, consider using the sheet as a sling and have someone help you move it.
- Never eat, drink, or smoke around antique textiles as these actions can stain the fabric. (*How to Care for Your Textiles | Museum of the Albemarle*, n.d.)
- Do not wear historical costumes. Use historically accurate reproductions for interpretive purposes.
- Identify textiles and accessories that are damaged or weakened and that require special handling and supports.
- Use pencils for documentation rather than ink.
- Wear clean gloves during handling to avoid soiling by the hands.
- Handle textiles only when necessary, making gentle, planned movements, thus minimizing the risk of physical damage to objects that may be weaker than they appear to be.
- Provide flat supports or custom mounts large enough to adequately support the entire textile before moving it.
- Pack textiles with adequate cushioning to prevent abrasion due to vibration in transit.
- Handle the flat support, hanger or mount, rather than the textile itself.
- Provide custom supports for handling oversized textiles. Supports may need to be specially fabricated because textiles such as rugs and hangings are often larger than standard sizes. Plan any move beforehand, and prepare the storage area or

display in advance of moving a large textile into it. Rolls or tubes used for storage also make useful tools for turning over large flat textiles and for handling and transit.

- Prepare a large enough space to accommodate objects before moving them.
- Oversized textiles often require custom supports and two or more people to transport them or install them for display or onto storage supports. (*Canadian Conservation Institute*)

2.1.5.2 Storage

Proper storage was essential for preserving the quality and longevity of valuable items, whether textiles, documents, or artefacts. Exposure to humidity, temperature fluctuations, light, and dust could lead to deterioration, discoloration, and structural damage over time. Effective storage solutions help protect materials from environmental factors, prevent physical stress, and reduce the risk of pest infestations. By implementing organized and controlled storage methods, items could be maintained in their best condition, ensuring their preservation for future use and reference.

- Store textiles in a cool, dry room with controlled light exposure (use blinds or curtains).
- Avoid attics and basements due to temperature and humidity fluctuations.
- Ensure air circulation to prevent mildew (use a fan or dehumidifier if needed).
- Increase humidity in dry conditions using a humidifier.
- Vacuum storage areas regularly to prevent dust accumulation and insect infestations.
- Avoid storing textiles directly on the floor; use metal shelves padded with polyester felt to prevent indentations.
- If using wooden shelves or drawers, line them with acid-free tissue or barrier paper to prevent acid damage (replace every 2-3 years).
- Rolling is the preferred method for most textiles to prevent creases and fabric weakening.
- Use archival support tubes, not PVC pipes, as PVC releases harmful chemicals over time.

- If rolling isn't possible, folded storage is acceptable, but folds must be padded to relieve pressure.
- Mat storage is ideal for smaller, fragile, or irregularly shaped textiles.
- Regularly inspect stored textiles to check for moth and carpet beetle infestations.
- Infestations can worsen in dark, undisturbed conditions, so unroll and inspect items monthly.
- Clean storage areas by wiping shelves, replacing padding, and vacuuming to remove dust and prevent insects.
- Check baseboards and windowsills for dust buildup, which can attract pests. (*Storing Textiles | the George Washington University Museum and the Textile Museum | the George Washington University*, n.d.)
- Do not place textiles in direct contact with wood as in cedar chests or on wooden hangers. The acid in the wood will cause textiles to yellow.
- Do not use wire or plastic hangers. Padded hangers are best because they provide better support for antique garments. However, garments that have fragile shoulder seams or heavy beadwork should not be
- hung on any type of hanger. Rather, they should be stored in boxes.
- If acid free boxes are not available, use white or light-colored bed sheets to wrap textiles. The sheet will protect textiles from light and dust and will enable you to see pest infestations more readily.
- Do not store textiles in plastic dry-cleaning bags or plastic tote boxes as these contain plasticizers that can harm fibers and even change colours of dyes. They can also create microclimates that are perfect environments for mold. (*How to Care for Your Textiles | Museum of the Albemarle*, n.d.)
- Flat objects are best stored flat without folding if the size permits. If you must fold, make sure the folds are not sharp but supported with rolled or scrunched-up acid-free tissue or pre-washed fabric covered cotton or polyester wadding sausages.
- Large flat objects can be stored rolled around a cardboard tube which has been covered with acid-free tissue. Interleave the item with tissue as you roll. Carpets should be rolled pile side out to avoid crushing the pile.
- Store hats in boxes lined with acid-free tissue. Pad the crown well with the tissue.

- Never store heavy items such as shoes or handbags on top of textiles. Remove safety pins, staples, dry cleaning labels and badges and wrap separately.

- Do not iron fabrics as this accelerates deterioration and can set some stains.

- Textiles should be stored in a dry, well-ventilated space to prevent mold growth, kept clean and insect-free to avoid pest damage, and placed away from direct light to prevent fading. Maintaining an environmentally stable setting is crucial, as fluctuations in temperature and humidity can cause fiber degradation, leading to issues like cracking in painted or coated fabrics due to uneven expansion and contraction of materials. (*Conservation Advice: Textiles | Australian War Memorial*, 2021)

- Prewash all fabrics for packing, cushioning or mounting textiles before use (e.g. dust covers, linings).

- Store small flat textiles and costumes with as few folds as possible in boxes or drawers.

- To prevent tight folds, pad them out with crumpled acid-free tissue, lightweight cotton sheeting, soft nylon tulle or cotton knit tubing stuffed with polyester fibrefill.

- Line boxes with cushioning material, with the objects interleaved if they must be stacked. If possible, limit the stacking of textiles.

- Store larger textiles, such as quilts and rugs, rolled, as outlined under Rolled Storage for Textiles.

- Hang costumes on padded hangers or store them flat if they are very fragile, heavy, beaded or cut on the bias. *(Canadian Conservation Institute)*
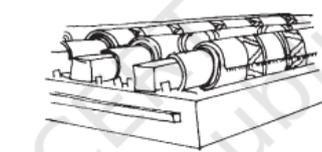
Plate 2.21: Rolled and Box Storage

Plate 2.22: Padded Hanger

Source:https://gaylord.widen.net/content/qbirjdpnp1/jpeg/ghanger.jpeg?w=538&h=538&position=
c&color=ffffff&quality=100&u=ryrcmg

2.1.5.3 Display

The proper display of textiles was crucial for both preservation and appreciation, ensuring that delicate fabrics remain structurally intact while being showcased effectively. Additionally, display cases and physical barriers provided an extra layer of protection against environmental factors and human contact. Limiting display durations and keeping some pieces in storage for future study or reproduction further ensures the longevity of textile collections. By implementing thoughtful and well-planned display techniques, museums and conservators could balance preservation with public accessibility, safeguarding textiles for future generations.

- Display costumes on custom mannequins, flat textiles on padded mounts and oversized textiles on a hanging system such as Velcro. Alternatively, a casing and properly sealed dowel for vertical display would prevent textiles from becoming distorted due to gravity.

- Display textiles for limited time periods (e.g. a three-month maximum). Keep some representative objects out of the rotation so that they remain pristine indefinitely, for future research and to make reproductions.

- Use physical barriers or display cases when possible. Display cases are preferable to open display, as they protect against dust, reduce pollutant exposure and provide a barrier against contact by the public.

- Provide custom supports for displaying oversized textiles. Supports might be need to be specially fabricated because textiles such as rugs and hangings are often larger than standard sizes. *(Canadian Conservation Institute)*

- Ensure that textiles are framed with acid-free mats and backing to prevent fabric damage.

- Use spacers when framing embroideries so that the fabric does not touch the glass or acrylic, preventing moisture buildup and fabric deterioration.

- Quilts and other flat textiles in good condition can be displayed using hanging sleeves for better support.

- Always seek expert advice before choosing a display method to ensure the best preservation for your textiles. (*How to Care for Your Textiles | Museum of the Albemarle*, n.d.)

- Avoid any exposure to sun light, sun light has a high proportion of Ultraviolet (UV) light which is the most damaging part of the light spectrum.

- Frame or make showcases with UV filtering Perspex.

- Use block out fabric curtains or blinds on windows when rooms are not being accessed. Where possible use bock out dust covers for showcases and items in open display.

- Box items for storage.

- Choose low UV emitting light bulbs

- Use UV filters on light. Flexible films can be purchased to wrap around Fluorescent light bulbs

- Do not place light directly into showcases, light also emit heat which can be damaging to textiles. (*Conservation Advice: Textiles | Australian War Memorial*)

2.2. Research related review

2.2.1 Research on Textile Documentation

Pandya, A. (1983) this research focused on documenting the traditional costumes of Gujarat's tribal communities, including Bhil, Dubla, Dhodia, Choudhary, Rathwa, Gamit, Dhanaka, Kukna, Varlis, Naiks, Patelia, and others. It highlighted the rich cultural heritage expressed through clothing, ornaments, and customs while addressing the gradual loss of these traditions. The study aimed to fill this gap by systematically documenting and analyzing traditional tribal attire to ensure its conservation and facilitate its understanding for future generations.

Bhalla, N. (2004) conducted a study on documenting the textile artifacts by accession and cataloguing and preservation and developed a digital imaging CD – ROM. This research was accomplished in the Department of Clothing and Textiles, The M.S. University of Baroda. Researcher had conducted a preliminary survey at seven museums having a valuable collection of textiles and relevant information by observation for cataloguing and conservation of textile artifacts. The study aims at documenting the textiles artifacts in both textual and photographic form. The study further aims to digitize the documented textiles using various softwares. Textile artifacts were documented in written as well as photographic form. Photographic documentation was done by filming helps in attaining a clear picture of the important features of textiles and in generating hard copies in form of negatives and photographs. These documented textiles were further digitized due to its easy to use features and swift remote access.

Kundan, V. (2011) in this research examined and documented a collection of embroidered textiles from the Textile Art Museum at the department of Clothing and Textiles in Vadodara. The 57 textiles she studied originated from 9 states in India: Gujarat, Rajasthan, Manipur, Himachal Pradesh, Uttar Pradesh, Karnataka, Punjab, Kashmir, and West Bengal. She conducted in-depth analysis of the textiles, focusing on their origins, raw materials, techniques, colours, and motifs. Following the study, the textiles were digitally photographed and archived for future reference, contributing to their preservation by reducing the need for physical handling.

Manek, K. (2012) focused on conservation and preservation while documenting the Textile Art Museum's rare items. Out of the 95 objects she documented, 47 were silk fabrics that were woven, 40 were embroidered, five were resist dyed, and three were printed. Following a condition analysis, the ratings were assigned as bad, fair, good, and exceptional. It was discovered that 68 out of 95 artifacts had damage, of which 32 were rated as good, 27 as excellent, 25 as fair, and 11 as poor. To preserve them in their current condition, the low-class artifacts were cold-treated with 10% polyvinyl acetate. Additionally, workshops were held to teach people how to employ household care to maintain their heirloom objects.

Gundev, G. (2013) explored the elaborate garment construction details of the royal attire worn by the Maharaja of Baroda. Focusing on two key garments, the Achkan and the

Angarakha, the study highlights their distinctive features, such as intricate cuts, luxurious textiles like kinkhabs and brocades, and elaborate embellishments using gold and silver zardozi embroidery. The Achkan, a formal garment worn on grand occasions, featured hidden pockets and monogrammed buttons, while the Angarakha, often used for court gatherings, was characterized by its double-breasted design and flared silhouette. Through documentation and analysis of preserved royal garments, the research underscored the significance of constructional techniques in historical clothing, drawing parallels to contemporary fashion trends where royal elements continued to influence androgynous styles and high-fashion collections. This study contributed valuable insights into India's rich textile heritage and its enduring impact on modern design.

Hinal, K. (2013) undertook a study at the Textile Art Museum, The Maharaja Sayajirao University of Baroda, focusing on the documentation and digitization of the Indian Printed and resist textiles collection. The research comprised four phases: first, the textiles were classified according to the states; then, the artifacts were analysed based on secondary research; next, the textiles were documented using cataloguing techniques; and finally, the printed and resist textiles were digitized. During the study, attention was given to the textiles' features including origin, construction, base material, colours, motifs, and color application style grouped together. Each artifact's results included a brief history, provenance, and significance of the embroidery.

Gaur et al. (2017) studied the significance of digitized documentation systems for textile collections in museums and designed a prototype system to improve museum documentation. The study emphasized the drawbacks of conventional manual record-keeping, which is laborious and erratic, making it difficult to retrieve and preserve information. The researchers examined documentation procedures in seven museums, including the National Museum and Crafts Museum in Delhi and foreign establishments like the Metropolitan Museum of Art in New York, in order to address these problems. In order simplify data storage, retrieval, and analysis, the study implemented a digital documentation system using Microsoft Access, which was tested on fifty textile samples. The results showed that digitization greatly increased accessibility for visitors, academics, and curators, guaranteeing better textile study and preservation. According to the study's findings, the long-term preservation and efficient administration of museum textile collections depend on the adoption of uniform digital recording.

Prajapati, K (2018) did research on the documentation of traditional clothes housed in the Textile Arts Museum. The study involved taking pictures of the clothing and cataloging it. The first and second phases involved gathering information from pertinent sources, analyzing the clothing based on its qualities, and classifying the clothing according to gender. In place of keeping the clothes' data, the third phase involved creating paper versions of the patterns and the garments' technique. The final step involved digitizing the data, which will serve as an invaluable resource for further research.

Suhootoorah, F. (2024) emphasizes the preservation of blouses from the Morbi Royal Family as heritage textiles while delving into their historical and cultural value. The study uses a methodical four-phase methodology to describe the historical background, production methods, and deterioration of traditional clothes, emphasizing the importance textile museums play in preserving them. The study evaluates the blouses' state through microscopic and optical examination and develops preventive conservation plans, with an emphasis on appropriate storage practices. Understanding conservation techniques is also enhanced by museum documentation and interviews with textile specialists. The study emphasizes how crucial it is to preserve royal fabrics for future generations' enjoyment of historical narratives as well as their aesthetic worth.

2.2.2. Methods of Documentation

Documentation, which gathered detailed information on items through written and visual channels, was crucial to museums' efforts to preserve cultural heritage. It entailed compiling and documenting important information on the technical, artistic, and historical facets of textiles. In addition to protecting priceless textile artistry, that procedure allowed traditional knowledge to be passed on to future generations who might not have the opportunity to see these treasures for themselves. Additionally, documentation was essential for research, teaching, and cultural preservation. It persevered our common cultural memory for future generations by capturing it. Textual, visual, and audio-visual documentation approaches were the three primary techniques utilized; those were frequently combined to offer a more thorough understanding of each piece. The approach selected will depend on the particulars of the cloth or object being conserved, as well as the conservator's level of experience. *(Sharan M, Chauhan V, & Kayastha H, 2015)*

Free text Documentation

Used an essay or point-form format, that method entailed creating a narrative that described an artefact's major features and conservation efforts. In circumstances where handling the artefact regularly is not permitted, the free-text method worked well to shield it from potential damage while yet allowing for extensive descriptions. Even in the absence of the actual artefact, that narrative offered a thorough comprehension of the object, making it suitable for study. When detailing objects with intricate intricacies or unusual histories, it is especially helpful.

Checklist Documentation

Checklist-style documentation followed a specified list of information that might be recorded for each object. It was perfect for cataloguing collections that had several objects with identical qualities because that approach guaranteed uniformity and standardization. It could not, however, capture the distinctive characteristics of specific objects due to their lack of flexibility. Though it might require more information for certain, unique objects, it was effective for huge collections and made data classification and retrieval simple.

Photography

Photographic documentation was a popular and efficient technique that was utilized extensively. It enabled the production of slides for documentation needs as well as colour or black-and-white photos. Photographs were important because they could document technical or analytical work, highlight fine details, demonstrate colour variations, and demonstrate the level of damage or deterioration. That technique was particularly helpful for comparing an object's state over time since it might record its state at several points in time.

X-radiography

X-radiography was a specialized technology for documenting the internal structure of complicated objects. Because it can take pictures of objects that were invisible to the unaided eye, it was particularly useful for studying the composition and composition of objects inside of them. X-radiography sheds light on hidden aspects like building methods or interior decay, whereas photography and illustration concentrate on the exterior

appearance. Nevertheless, that approach had limitations when it came to textiles because X-ray radiation might harm them. Information regarding the voltage applied, exposure duration, and film type were all included in the documentation of X-radiography.

Illustration

Illustrations were meticulous drawings, frequently made in pencil, that provide important details about the artefact, like the dates, the object's condition, and the title. The documenter signed the artwork, which could be used either by itself or in conjunction with photography. That approach was especially helpful when intricate drawings are needed or when it's crucial to capture the essence of the artefact's expression, flow, or mood. Even though they need time to prepare, pictures add much-needed clarity to reports *(Sharan M, Chauhan V, & Kayastha H, 2015)*

Fabric digitization

Fabric digitization was a revolutionary technology in textiles that produced precise 3D models, or "digital twins," of materials by imitating their look, feel, and physical characteristics like draping. A digital fabric file in a format like u3ma was produced by scanning fabric for colour, pattern, and texture as well as documenting their physical characteristics like weight and elasticity. Because these files work with design platforms like as CLO 3D and Gerber, it was possible to collaborate globally, expedite the design and prototype process, and eliminate the need for physical samples, resulting in a sustainable and affordable solution. (*Fabric Digitization Revolutionizes Garment Design*, *2023)*

2.2.3. Pattern Development

2.2.3.1. Basic Dress Foundation

Patternmaking started with drafting the basic dress foundation, which contained all key body dimensions and served as the base for fit and design development. That foundational dress consisted of five parts: the front and back bodice, front and back skirt that falls straight from the hips, and slim full-length sleeves. It closely followed the body's outermost contours but did not shape hollow areas. The garment featured seams positioned over prominent areas like the bust, abdomen, and shoulder blades. Those seams, represented by wedge shapes in the draft, ensured proper fit by filling in the hollow

spaces. A well-made garment would provide comfortable ease and maintain a balanced fit that complements the wearer's stance. *(Armstrong, J. 2014)*

2.2.3.2. Methods of Pattern Development

Pattern development was the process of manipulating and shaping a flat piece of cloth to fit to one or more curves of the human body. A two-dimensional fashion drawing or a flat sketch with measurements were usually used as the starting point for a pattern maker's work. The fundamental pattern served as the basis for pattern creation, fit, and design. It involved three main methods:

1. Drafting
2. Draping
3. Flat Paper Pattern

Drafting was the process of taking accurate measurements on a person, clothing, or body form or using sizing systems. On paper, measurements for the chest, waist, hips, and other areas were noted together with ease allowances. To finish the design, construction lines are made. With drafting, one could establish foundational, fundamental, or design patterns. (*Pattern Making: The Basics*, n.d.)

Plate 2.23: Drafting

Source: https://www.donlarrie.com/wp-content/uploads/2020/03/IMG_1104-011-768x355.jpeg

Draping was a three-dimensional patterning technique in which cloth was draped directly over a dress form to make a garment. Draping was a technique that helped designers see the fit, fall, and design of a garment early in the process. It started with muslin cloth, which was prepared by blocking, ironing, and marking important milestones.That technique was particularly useful for experimenting with details like necklines, sleeves, and decorations, as well as for making unusual designs and proportion adjustments. Although draping allowed creativity and flexibility, it was costly and time-consuming. The weight, feel, and fiber composition of the fabric all influence how it drapes on the body, so selection was important.

36

Plate 2.24: Draping

Flat pattern was a two-dimensional technique in which body measurements were printed on paper to form basic patterns or blocks. Patterns for the bodice, sleeves, and skirt blocks were drafted using tools including scales, L scales, and French curves. Made a sloper, a simple body-fitting pattern devoid of seam allowances or design embellishments, was the first step in the process. After making adjustments to produce a functioning pattern, a mock fit was conducted to evaluate the fit and balance of the garment. Following adjustments, a final design was created with the required pattern information, notches, and seam allowances. That technique was flexible and took less time to produce a wide range of designs. *(https://www.egyankosh.ac.in/bitstream/123456789/61156/3/Unit-1.pdf)*

Plate 2.25: Flat Paper Pattern

2.2.4 Digital Pattern Making

A digital pattern was an internet file that contained the precise measurements and shapes required to make a garment. Fashion designers could create clothing styles and make the necessary alterations with accuracy thanks to the sophisticated 3D modelling software that was used to generate it. The entire process of conception and production was made incredibly efficient by using a digital pattern. The ability to see the finished product before it was physically produced allowed designers and pattern makers to make quick and

precise alterations. Additionally, because digital blueprints were easily shared with many teams and manufacturers, they facilitated greater collaboration. That ensured more efficient workflow by promoting streamlined communication and enabling large-scale production. Because digital patterns eliminated the need for paper and the waste that came with creating traditional patterns, they also had the added benefit of being more sustainable. Additionally, digital designs encouraged on-demand manufacturing, which successfully reduced material waste and avoided excessive clothing stockpiling. (*Audaces, 2023*)

2.2.4.1 How to incorporate digital patterns into production?

To incorporate digital patterns into garment production, there were several essential steps to follow. There were a few crucial steps you had to take in order to integrate digital patterns into your clothing production. Obtaining trustworthy modelling software was one of the first prerequisites, as there were many possibilities on the market. As a result, you had to select software that fitted your production requirements and had the functionality you needed to produce accurate and lifelike models. You could create a digital pattern if you had the modelling program. That could be done by creating a whole new style from scratch or by modifying an existing model or design. The digital pattern must have all of the necessary details, including sizes, forms, and seams, among others, to ensure that the garment is produced precisely. danger of technical problems or data loss.

2.2.4.2 Types of Digital Pattern making softwares

- Richpeace software**:** Richpeace was a free CAD (Computer-Aided Design) and CAM (Computer-Aided Manufacturing) solution created by Tianjin Richpeace Computer & Machinery Co., Ltd. It was widely used in the textile, garment, home furnishings, and automotive industries. Pattern creation, grading, marker creation, embroidery digitization, quilting, and automated cutting were all made possible by its garment CAD, CAM, and design tools. Richpeace integrated with CNC cutting, multi-head quilting, and embroidery machines to improve fabric optimization, accuracy, and efficiency. It helped enterprises enhance textile design and manufacturing processes, speed up production, and decrease manual errors with its automation and customisation options. *(Garment CAD_CAD Software_Download_TIANJIN RICHPEACE AI CO., LIMITED, n.d.)*

- Gerber AccuMark**:** Gerber AccuMark was a premium, subscription-based digital pattern-making software designed by Gerber Technology for the fashion and textile industries. For pattern design, grading, marker creation, and 3D virtual sampling, it provided a comprehensive CAD package. It helped fashion companies achieve accurate fit and efficiency from concept to completion with features like fabric optimization, automated nesting, and seamless interface with Gerber cutting machines. (*Gerber AccuMark*, 2025)

- Tukatech: Tukatech offered TUKAcad, a premium, subscription-based CAD program developed for digital pattern-making, grading, and marker-making in the fashion sector. It helped users to improve production efficiency, optimize fabric usage, and design exact patterns. It serverved both novices and experts with capabilities including cloud-based collaboration, automatic marker creation, 2D pattern drafting, and interaction with TUKA3D for 3D visualization. TUKAcad provided free trials for new users and educational organizations, as well as customizable pricing options with monthly and annual subscriptions. (*Tukatech, 2025*)

2.2.5 Methods of Cataloguing

The Small Museums Cataloguing Manual, produced by AMaGA Victoria, was a valuable resource for regional and community museums looked to successfully classify their object and image collections. The act of making a permanent record of the collection by gathering and preserving the essential details that formally identified and described every item was known as cataloguing. The cataloguing spreadsheet, which contained vital areas like the registration number, object name, description, identifying marks, measurements, condition, provenance, and acquisition details, was at the heart of this procedure. The worksheet can also be expanded into an object file, which would include articles, photos, and any other pertinent details on the background and importance of each thing. In order to assist the general administration of the museum's most valuable asset the collection the handbook highlighted the significance of accurate and comprehensive collection information, which served as the foundation for essential museum operations like research, conservation, risk management, and exhibition production. *(Australian Museums and Galleries Association (AMaGA) Victoria, n.d.)*

For the purpose of maintaining and categorizing textile collections at The Textile Museum, Washington DC, a structured vocabulary system called The Textile Museum Thesaurus was created. In order to guarantee uniformity in documentation and search ability inside the museum's ARGUS collections database, it was created as a component of the Lloyd Cotsen Textile Documentation Project. The ARGUS Collections Database is a collections management software used by museums, archives, and cultural institutions to catalogue, organize, and manage their collections. It provided a centralized digital platform for recording detailed information about artefacts, including descriptions, materials, provenance, and classification.

The key hierarchies outlined in the Textile Museum Thesaurus included:

1. Object Hierarchy: That hierarchy categorized textiles by their physical aspects, social context, use, and modifiers. Examples included:

- Physical aspects: basketry, fabric, textile fragment, shape, size
- Social context: ceremonial textile, emblematic textile, scared textile
- Use: costume, furnishing
- Modifier: object area, object attribute, fragment

2. Material Hierarchy: That categorized the substances from which textiles are made, organized by function and property. Examples included:

- By function: adhesive, colorant
- By property: fibrous material
- By source: organic, inorganic

3. Structure Hierarchy:

- Focused on the physical relationships and arrangements of textile components. That included the various types of weave and other structural attributes

4. Technique Hierarchy:

- Described the methods used in textile production processes, encompassing techniques such as weaving, dyeing, and construction methods

The museum referred to in the discussion is The Textile Museum, located in Washington, DC. At The Textile Museum, ARGUS was used alongside the Textile Museum Thesaurus **to** maintain consistency in textile documentation, making it easier to track, search, and manage textile collections. (*The Textile Museum et al., 2005*)

CHAPTER III

METHODOLOGY

This chapter explained the research structure and methodological execution essential to meet the study's objectives. The study aimed to preserve those valuable garments by creating detailed records, ensuring their longevity for future generations. The methodology of the study was divided into four phases. The first phase involved classification of the garments, the second and third phase was dedicated to the simultaneous **documentation** and data collection of the garments on the basis of their place of origin, colour, fabric, ornamentation, and style and development of paper patterns. In the fourth phase, a comprehensive cataloguing process was undertaken. The research employed a descriptive and qualitative approach to systematically document and preserve these garments through digital archiving, photographs, and written descriptions. This chapter presented the step-by-step methodological process, guided the researcher towards the fulfilment of the study's objectives of cataloguing and heritage preservation in the following sections:

3.1 Research Design

3.2 Classification of Traditional Garments

3.3 Sample Selection

3.4 Collection of Data

       3.4.1 Data Collection from Textile Museum Professionals

       3.4.2 High Resolution Photography

       3.4.3 Visual analysis of the samples

       3.4.4 Manual Measurements

3.5 Development of digital patterns using drafting instructions

       3.5.1 Instructions for development of digital patterns using software

       3.5.2 Digital pattern creation using step by step drafting instructions

3.6 Documentation and Analysis of the Data

3.7 Preparation of Documentation Sheet Report and Catalogue

3.1 Research Design

(OBJECTIVE 1)　　(OBJECTIVE 2)　(OBJECTIVE 3)

PHASE 1 Classification of garments	PHASE 2 Data Collection & Documentation	PHASE 3 Drafting of Garments	PHASE 4 Catalogue making

Purposive Sampling

Data Collection

Development of digital patterns using digital software (Richpeace)

Preparation of Catalogue (For future reference)

Primary Source:
- Observation
- Museum visits
- Museum curator

Classification of garments on the basis of Female Upper Garments

Secondary Source:
- Books
- Journals
- Websites
- Dissertation

13 garments to be selected for documentation

Analysis of the Data

Preparation & Validation of Tool (Questionnaire)

Documentation of Garments

Analysis of the Data on the basis of:
- **Visual Analysis of the data**
- **Categorization**
- **Condition Assessment**
- **Construction Techniques**
- **Historical Context**
- **Physical Description.**

Figure 3.1: Research Design

3.2 Classification of Traditional Garments

In this section, the traditional garments selected for documentation were classified to provide a structured approach for analysis. The classification aided in understanding garments based on a variety of factors such as gender, purpose, and type.

The following were the primary classification criterion:

- Upper Garments: Clothes that cover the upper body fall under this category. In this study, only female blouses were taken and categorized according to their design, manufacturing methods, and cultural significance.

Blouses shared a common basic structure but vary in fit, neckline, sleeve styles, and embellishments, making pattern adaptation easier while preserving essential design elements and guarantees consistency, studying a single category enabled comparative analysis of stylistic evolution and the development of flexible patterns for contemporary replication.

3.3 Sample Selection

The Textile Art Museum helds a diverse collection of female blouses, some of which had already been systematically documented. However, several blouses remained undocumented, lacking detailed records of their origin, fabric, ornamentation, and construction techniques. This study specifically focused on identifying and documenting those unrecorded blouses to preserve their cultural and historical significance.

3.4 Collection of Data

Data collection was conducted using both primary and secondary sources. Primary data was obtained through direct observation and a questionnaire survey of individuals working in textile museums. Secondary data was gathered from books, journals, websites, and dissertations to support and enrich the analysis, including documentation methods, fabric type, construction, style features, digital pattern creation, drafting, and cataloguing processes. A range of tools and approaches were utilized to ensure comprehensive documentation of each garment. An observation sheet was used to record details such as the garment's origin, colour, fabric, embellishments, and stylistic elements. This dissertation relied on visual analysis, questionnaire surveys of people working in textile

museums, and historical garment data. Various methods and tools were employed throughout the data collection process to ensure thorough and accurate documentation.

During data collecting within the museum setting, tight protocol was followed, using just a pencil for notations. This safety precaution was essential to avoid spilling ink on the fragile relics that needed to be handled with care. Measurements, photographs, and condition inspections were carried out concurrently to reduce the possibility of damage and prevent needless handling and frequent moving of the objects.

3.4.1 Data Collection from Textile Museum Professionals

To take the research forward, a questionnaire (google form) was designed to gather data on museum textile documentation methods. The questionnaire titled "Documentation of Garments in the Textile Art Museum: Preserving Heritage Through Digital Cataloguing" was designed to gather insights from museum professionals on the documentation, preservation, and digitization of traditional garments in textile museums. It aimed to examine existing methods of cataloguing, including written records, photography, videography, and digital software, while also identifying challenges in conservation and curation. The study explored the criteria for garment selection, storage practices, and preventive conservation measures such as climate control, pest management, and condition assessments. The key focus was the role of digital archiving in reducing physical handling and enhancing accessibility for research and public engagement. Additionally, the questionnaire investigated the acquisition, provenance research, career opportunities and impact of textile exhibitions on cultural awareness.

The questionnaire was then distributed through direct message via LinkedIn to the professionals working in the field of textile museums to understand their documentation practices. The questionnaire was validated by three experts, whose suggestions were incorporated to refine its content and ensure its relevance.

3.4.2 High Resolution Photography

To create digital records, high-resolution photographs were captured of 13 blouses using Canon D1300 DSLR. Suitable background was used to enhance detailed photography. Comprehensive front and back views were captured, alongside close-up shots focusing

on the embellishments, openings, seams, and signs of deterioration. To enhance photography and better capture, the form and shape of certain blouses, additional cups and stuffing were used. This ensured that the structure, fit, and intricate details of the garments were visibly highlighted, which provided a more accurate representation of their original drape and silhouette.

3.4.3 Visual analysis of the samples

The blouses were visually assessed to document their fabric, weave type, motifs and style features. Each blouse was placed on a muslin cloth to provide a neutral background for observation and to prevent the garment from getting dirty. Other surface ornamentation and style features were also assessed. For the weave type and weave structure, a pick glass with a 1.5 cm square measurement was used to closely examine the weave type, twist, ply, and structure. For each blouse, five readings were taken to determine the warp and weft count. The average of these five readings was calculated and recorded in the results to ensure accuracy and consistency in the analysis. Condition reports were prepared to record any signs of wear, alterations, or damage, assisting in future conservation planning.

3.4.3 Manual Measurements

Accurate manual measurements were taken to assist in digital documentation and pattern development. A measuring tape was used following the standard metric system (in **centimetres)** to record dimensions such as bust, waist, length, darts, neckline, armhole and sleeve measurements. These measurements were carefully documented through pencil sketches, representing both the front and back parts, to serve as a reference for future use in digital documentation and pattern development. A muslin cloth was used beneath each blouse to create a neutral background for observation and to keep the garment clean.

3.5 Development of Digital Patterns using Drafting Instructions

The designs and construction details of the traditional garments were translated into accurate, useful formats for documentation and contemporary replication. Specialized

pattern-making software named Richpeace was used to create precise digital patterns, ensuring that every element, including the silhouette and seam placements, were accurately preserved. In order to preserve the original construction methods, the software helped convert the conventional clothing structures into intricate paper patterns

The process included:

- **Pattern-Making Software:** Using digital tools to translate physical garment dimensions into accurate, reusable patterns.
- **Measurement and Analysis**: Taking precise garment measurements manually (e.g., bust, waist, length) to aid in the digital pattern-making process.
- **Step-by-Step Drafting Instructions**: Writing detailed guidelines for assembling the garments, covering necessary cuts, fabric layers, and stitching techniques.
- **Digital Pattern Creation**: Using software tool to create digital versions of the patterns, ensuring accuracy, alignment, and preservation of traditional construction methods and Identifying and outlining all necessary pattern components (e.g., bodice, sleeve, skirt panel) required to recreate the garment.

3.5.1 Instructions for development of digital patterns using software

This section outlines the step-by-step process followed to develop digital patterns, from software installation to final pattern creation. It included instructions on creating a new project, importing measurements, drafting patterns, adding seams, and other essential steps. These methods ensured a systematic approach to digital pattern development, facilitating precise documentation and garment construction.

Rich peace is a company that develops and provides CAD (Computer-Aided Design) free software and related solutions for various industries, primarily focusing on textile, fashion, and garment manufacturing, including software for pattern making, grading, and marker making. The Richpeace CAD software offers advanced features that enhance the digital pattern-making process. It allows for precise pattern drafting using digital tools, ensuring accuracy in garment design. The software supports automated grading and marker-making, improving production efficiency by quickly generating size variations and optimizing fabric usage. Additionally, it enables the accurate placement of seam allowances and notches, facilitating smooth garment assembly. Its flexibility for pattern

modifications and adjustments allows for quick revisions, making the pattern-making process more efficient and accurate while reducing manual effort.

Step 1: Software Installation

- Access the website: Go to the Richpeace website. (www.richpeace.com)
- Navigate to the Software Section: On the homepage, select "CAD Software" and choose "Garment CAD" from the available options.
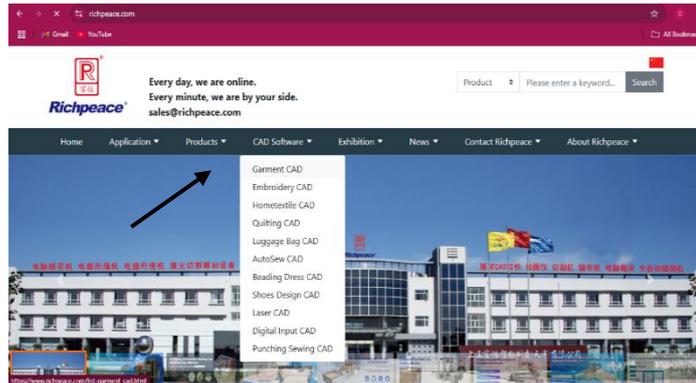
Plate 3.1: Homepage of Richpeace Software

Step 2: Selecting the Software Version

- Select a software version compatible with the computer system (e.g., V8, V9, V10, or V11).
- Click the "Download" button associated with the selected version.
- The researcher's laptop supported the **"**Richpeace Garment CAD V8.0 Free Version (English)", which was downloaded and utilized for the digital pattern-making process. The software is downloaded for free.
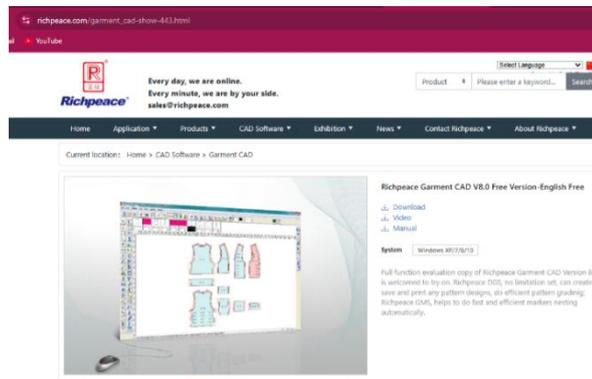
Plate 3.2: Webpage of the version to be downloaded Richpeace Garment CAD V8.0"

Step 3: Installing the Software

- Once the download starts, save the installation file to a designated location on the computer.
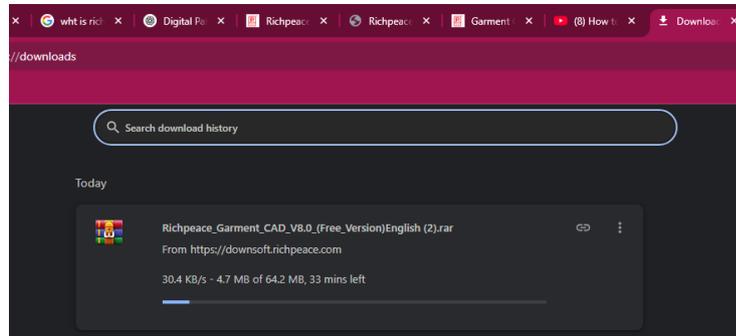
Plate 3.3: Downloading of the software

- The installation requires "Winroot software" to support the process. (The Winroot software was downloaded from an external source as it requires a paid subscription and license for official access)

- Right-click on the downloaded file and select "Extract Files" to unpack the installer. A dialog box titled "Extraction Path and Options" will appear click "OK" without making any changes. This process will create a new folder named after the **software** and its **version**, containing all necessary software components.
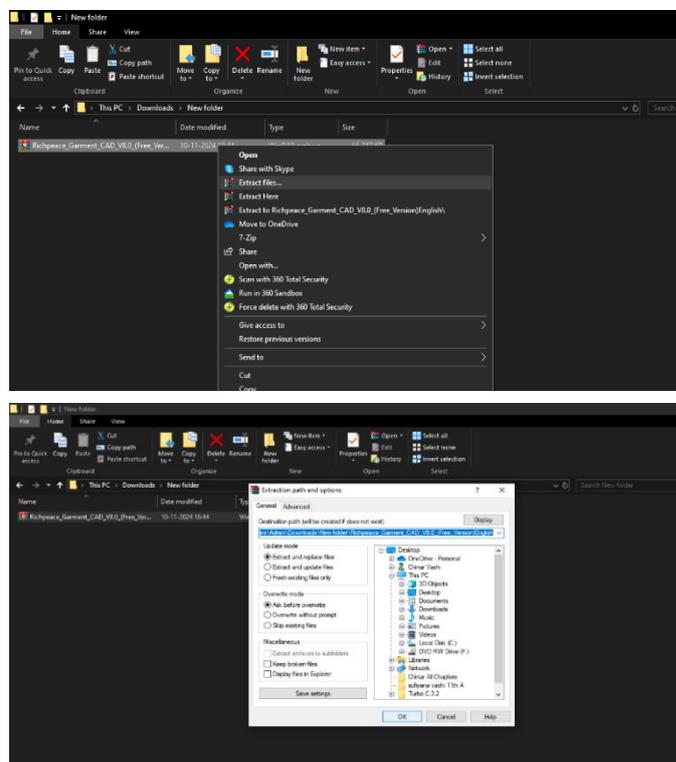
Plate 3.4: Right click on "Extract Files" and Dialog box titled "Extraction Path and Options"

- Open the newly created folder and **search for "setup."** Right-click on the **"setup"** file and select **"Run as Administrator"** to start the installation.
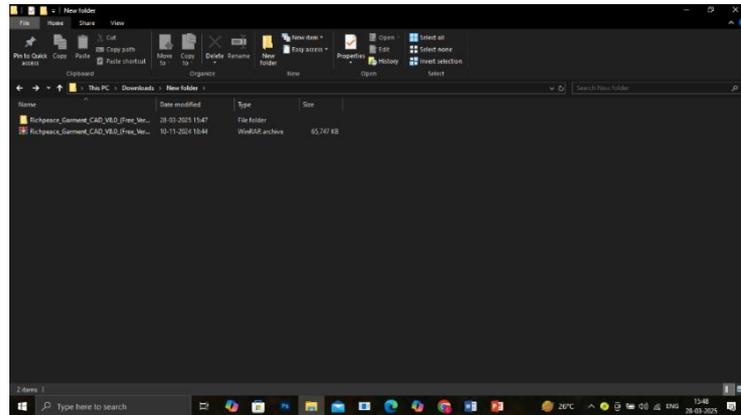
Plate 3.5: Newly created folder after clicking "OK" for file extraction
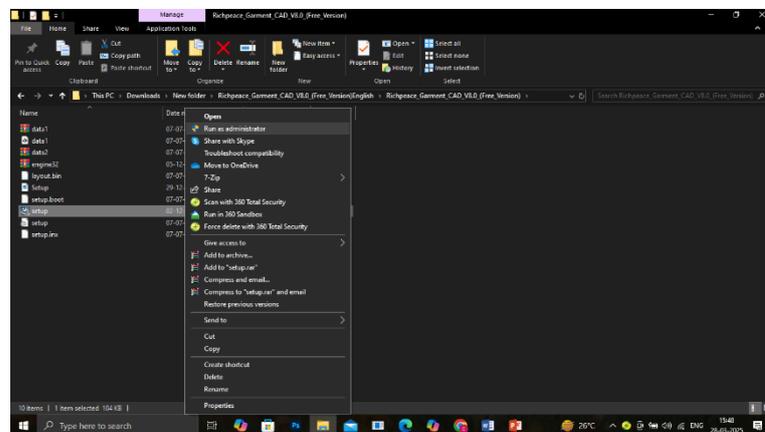
Plate 3.6:" Right-click on the "setup" file and select "Run as Administrator"

The software installation will automatically install three components:

- RP DGS (Design & Grading System)
- RP GMS (Garment Manufacturing System)
- RP PDS (Pattern Design System)
- For **pattern-making**, use **the RP DGS (Design & Grading System)** component.
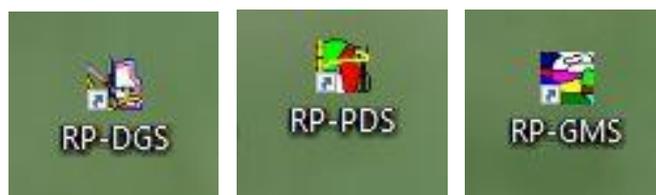
Plate 3.7: Three components of Richpeace software

Step 4: Open Richpeace CAD Software

- Launch RP PDS (Pattern Design System) from the installed Richpeace CAD software.

- Create a new project file and set the measurement units (cm/inches) as required.

- Select "New Pattern" and name your project (e.g., "Basic Bodice Pattern").

Most frequently used tools by the researcher

- Modify Tool: Adjusts and edits existing pattern shapes and lines.

- Add Seam: Adds seam allowances to pattern pieces.

- View Pattern: Displays the created pattern for review and adjustments.

- Intelligent Pen: Draws freehand lines and curves with precision.

- Rectangle: Creates rectangular shapes for pattern components.

- Add Point: Inserts new points to modify lines and curves.

- Eraser: Deletes unwanted lines, points, or pattern sections.

- Rotate, Copy, Mirror, Flip Pattern: Manipulates pattern pieces by rotating, duplicating, mirroring, or flipping them.

- Text: Adds labels or notes to the pattern for clarity and documentation.
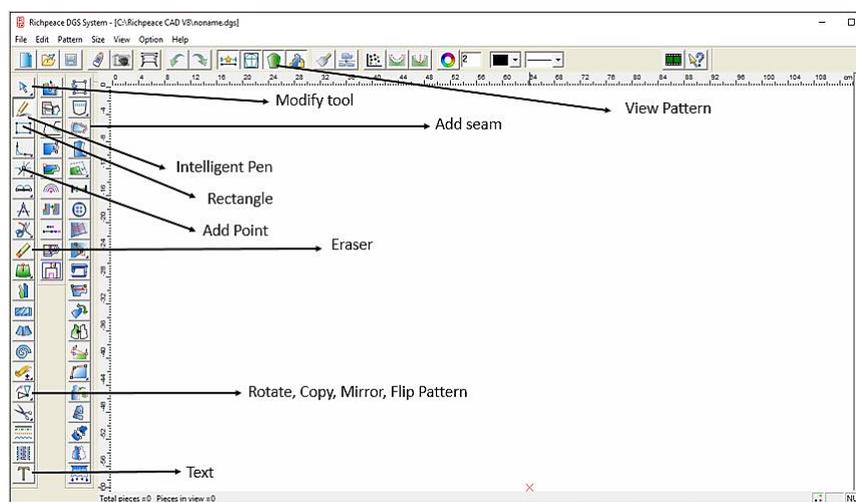
Plate 3.8: Labelling of most frequently tools used by the researcher

Step 5: Creating the Pattern

- Draw Vertical and Horizontal Guidelines

- Use the Intelligent Pen to create a vertical guideline for the center front.

- Draw a horizontal guideline to mark the bust, waist, and hip levels.
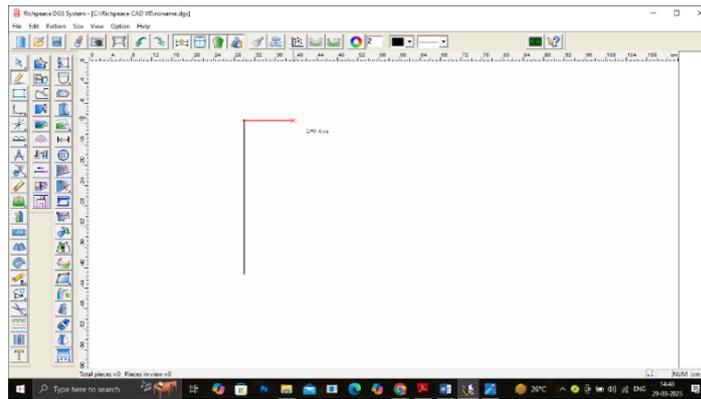
Plate 3.9: Vertical and Horizontal Guidelines using intelligent pen tool for length and width of the blouse

Step 6: Plot Key Points

- Using the intelligent pen tool, draw the lines for the following using the drafting instructions:
  - ➢ Shoulder
  - ➢ Neck
  - ➢ Bust
  - ➢ Armhole
  - ➢ Waistline
- Draw the Neckline & Shoulder and select the curve tool to draw the front neckline as per measurements.
- Draw the shoulder line at the correct angle after marking it with point tool.
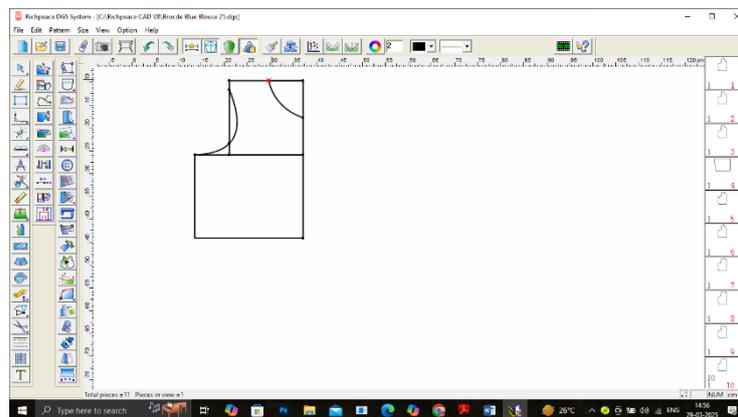
Plate 3.10: Following the points marked by the Point tool to make shoulder line

- Use the curve tool to create the armhole shape by connecting the shoulder and bust points smoothly.
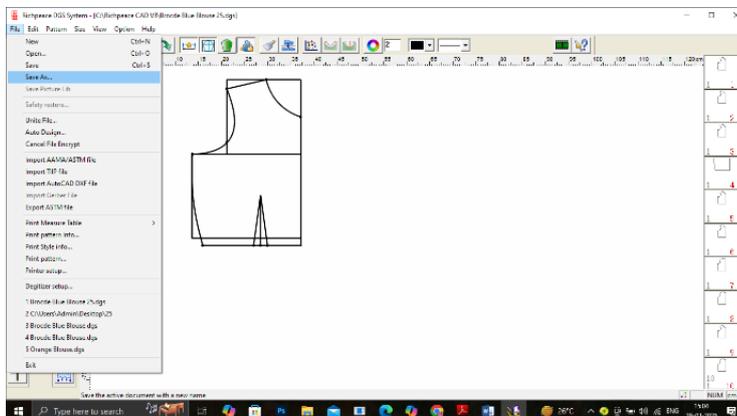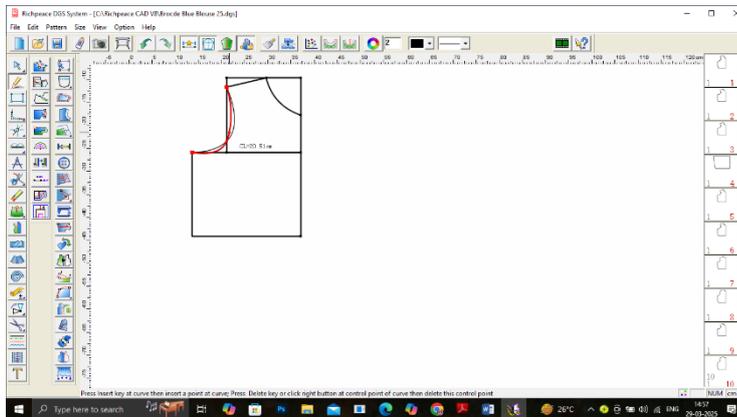
Plate 3.11: Curve tool used to make the armhole

- Mark the dart with the intelligent pen tool and position the front darts at the bust level and adjust dart width as per standard bodice construction.
- Mark the Waistline and Hem
- Use the line tool to draw the waistline, adding dart shaping if required.
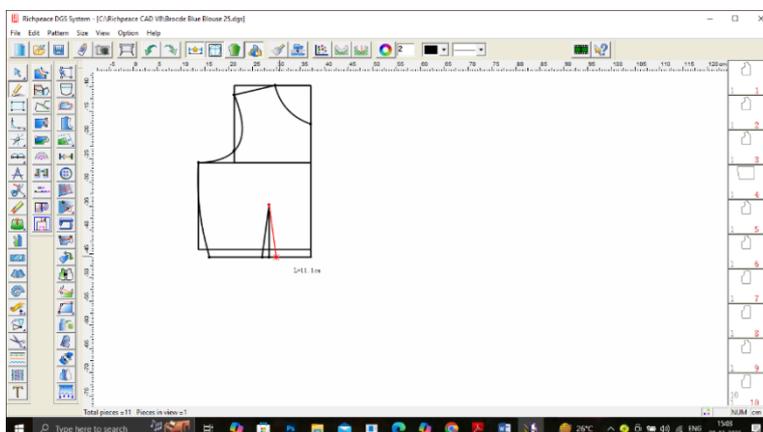
Plate 3.12: Marking of the dart

Step 7: Save and Export the Pattern

- Go to "File" option and click on "Save As" the Pattern File in the software.
- Export the digital pattern in formats like PDF, DXF, PLT, or HPGL for cutting or printing. The digital pattern is now ready for grading, marker-making, and production.
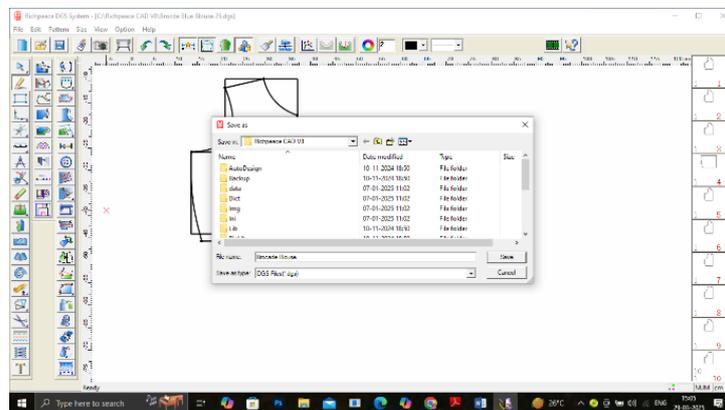
Plate 3.13: Saving of the final pattern

3.5.2 Digital pattern creation using step by step drafting instructions

Drafting instructions were primarily derived from the book *Zarapkar System of Cutting*, with necessary modifications incorporated as required. The process involved using pattern-making software to convert physical garment dimensions into accurate, reusable digital patterns. Step-by-step drafting instructions were written to guide garment assembly, detailing essential cuts, fabric layers, and stitching techniques. The digital pattern creation process included using software tools to ensure precision, alignment, and the preservation of traditional construction methods. Additionally, all essential pattern components, such as the bodice, sleeves, and panels, were identified and outlined to accurately recreate each garment.

The finalized drafting instructions and patterns were digitally recorded, ensuring that ancient skills remain accessible for future generations. This resource would serve as a guide for scholars, designers, and textile enthusiasts looking to study or replicate traditional garments in modern settings while preserving their historical integrity. The modifications required to maintain the integrity of the classic design while taking into account contemporary body dimensions were also covered in these guidelines.

3.6 Documentation and Analysis of the Data

The traditional garment patterns and construction methods were captured digitally to ensure these techniques remain accessible to future generations. This documented resource provides valuable reference material for academics, fashion designers, and textile enthusiasts who wish to study or reproduce these historical garments authentically. The preservation effort also thoughtfully integrated adaptations for modern body measurements while respecting and maintaining the integrity of the original designs.

A combined qualitative and quantitative approach was adopted to systematically categorize, assess, and interpret the documented garments through observation and secondary sources. The analysis focused on garment classification, condition assessment, construction techniques, historical context, and pattern adaptation. The aspects analyzed are elaborated below:

Categorization

- Identification of common stylistic elements across different blouses through observation and referencing drafting instructions from *Zarapkar System of Cutting*.
- Grouping of blouses based on similarities in structure, fabric, embellishment, and stitching techniques.

Condition Assessment

- Documentation of fabric degradation, discoloration, and wear over time.
- Identification of any missing components such as fasteners, trims, or embroidery.

The terminology used for condition assessment and treatment urgency varies among textile conservators and professionals. To ensure clarity, a standardized condition rating system, developed by *Manek, K. (2004)*, was used in this study:

- **Good:** Minor damage present without active deterioration.
  - Damage includes small holes, creases, tears, folds, color fading, or fraying of yarns.
  - Preventive conservation treatment may be necessary to stabilize the artifact.

- **Fair:** Some damage evident with gradual deterioration.
  - Damage may include tears at folds, large holes, abraded areas, worn-down sections, or multiple damages.
  - Preventive conservation treatment may be required, such as repairing tears or mending holes.
- **Poor:** Significant damage or ongoing deterioration.
  - Textiles in such condition are fragile, structurally unstable, and experiencing severe deterioration.
  - Curative conservation treatment is necessary to stabilize the artifact.

Construction Features (Supporting Digital Pattern Development)
- Analysis of seam types, stitching methods, and reinforcement techniques.
- Identification of dart placements, pleats, panelling, and finishing details.

Historical Context and Physical Description (Validated and Referenced Through Sources)
- Verification of the garment's origin and cultural significance.
- Detailed documentation of blouse silhouettes, sleeve variations, and neckline styles.
- Noting distinctive stylistic features such as piping, frills, or additional layers.

All findings were systematically compiled into a comprehensive Documentation Sheet. The format used was initially developed by Ms. Kanika Choudhary, a former teacher and current researcher at the Department of Clothing and Textiles, and was previously utilized by Suhootoorah Frayhah in her dissertation. The documentation sheet was specifically designed for the Textile Art Museum, aligning with formats used in museums across India. Following the museum documentation process, the sheet was filled with all necessary details, ensuring a structured record of each blouse. A separate catalog was created,using Canva software to maintain a systematic record of all documented garments. Certain elements, such as the date/time period of acquisition, donor details, production information, and images captured using Dino Light, were omitted by the researcher from the original documentation sheet.

The documentation compiled by museums serves as a vital resource for researchers and textile conservators, facilitating further study and analysis of these cultural artefacts. By

providing detailed information on each individual artefact, including materials, construction methods, and condition, museum documentation informs future conservation and preservation practices. This ensures appropriate measures can be taken to safeguard the state and longevity of the blouses and other textile artefacts.

3.7 Preparation of Catalogue

The analysed data was systematically documented in a comprehensive documentation sheet (Appendix-4), adhering to museum-standard practices to ensure accuracy, consistency, and accessibility. The documentation sheet ensures accurate record-keeping and supports textile conservation, this documentation sheet served as a foundational record, encompassing critical aspects necessary for garment preservation, research, and exhibition planning.

The analyzed data was documented in a comprehensive documentation sheet report as follows:

1. Accessioning

Accession Number: Each garment should be assigned a unique accession number, often composed of the year it was acquired and a sequential item number.

2. Physical Description

This section provided a detailed description of the garment to assist with identification, research, and exhibition planning.

- **Type of Garment**: Specific type
- **Dimensions**: Measurements and record of dimensions, including height, width, and depth as applicable (or flat measurements like length, sleeve length, etc.).
- **Materials**: Identification of all materials used (e.g., silk, wool, cotton, synthetic fibers).
- **Color**: Primary and secondary colors, noting any patterns (stripes, floral, etc.).
- **Construction Details**: Sewing techniques, stitching, seams, hems, closures (zippers, buttons, hooks), and linings.
- **Condition**: Documentation of the condition of the garment, noting any damage such as tears, stains, fading, or missing elements.
- **Label Information**: Record of details from any labels, including brand, designer, size, and care instructions (if any)

3. Cultural and Historical Context

- **Cultural Context**: Provided any relevant cultural or historical background, such as the fashion trend it represents, its use in ceremonies, or its social significance.

4. Photographic Documentation

- **Photographs**: High-resolution photographs of the garment from multiple angles (front, back, side views) were taken. Close-up images captured details such as fabric texture, stitching, labels, and any areas of damage or wear.

5. Storage Information

- **Storage Location**: The specific storage location, including shelf, box, or rack numbers.
- **Handling Instructions**: Any special handling instructions (e.g., requires gloves, avoid sunlight, needs specific temperature or humidity control).
- **Storage Materials**: Documentation of any preservation materials used (e.g., acid-free tissue paper, padded hangers, archival boxes).

6. Condition Reports and Conservation Notes

- **Condition Report**: Conduct regular assessments and record any changes in the garment's condition over time.
- **Conservation**: Note of any conservation treatments the garment had undergone, including cleaning, repair, or stabilization efforts.

7. Digitization and Accessibility

- **Digitize**: Creation of digital records of the garment with detailed information and make them accessible through the museum's catalog or digital archive.
- **Public Access**: Included public-facing descriptions for collections.

Through documentation sheet, which serves as a technical record for museum professionals, a catalogue was derived from the documented data but curated with a more narrative driven and visually engaging approach. It featured:

- Descriptive summaries highlighting key aspects of each blouse.
- Photographs and illustrations for a visually enriched experience.
- Cultural and historical context to educate and engage readers.

CHAPTER IV

RESULTS AND DISCUSSIONS

This chapter presented the findings from the systematic documentation of selected female upper garments from the Textile Art Museum. The research followed four phases: classification, data collection, drafting, and catalogue preparation. In Phase 1, 13 blouses were selected using purposive sampling, classified based on fabric, style, ornamentation, color, and place of origin. Phase 2 involved data collection through primary sources (observation, and questionnaire) and secondary sources (books, journals, websites, dissertations), followed by data analysis. Phase 3 focused on drafting patterns using Richpeace software, aided in garment reconstruction. Finally, Phase 4 involved compiling a comprehensive catalogue for future reference, preserving detailed garment records. The structure of this chapter, which presented the study's findings, was organized as follows:

4.1 Sample Selection

4.2 Collection of Data

4.2.1 Data Collection from Textile Museum Professionals

4.2.2 High Resolution Photography

4.2.3 Visual analysis of the samples

4.2.4 Manual Measurements

4.3 Development of Digital Patterns using Drafting Instructions

4.3.1 Digital pattern creation using step by step drafting instructions

4.3.2 Identification of challenges in converting traditional cuts into digital formats.

4.4 Documentation and Analysis of the Data

4.5 Preparation of the Catalogue

4.1 Sample Selection

Out of a total of 55 blouses in the Textile Art Museum, 18 were already documented, while the remaining 37 lacked detailed documentations. The sample size for the study consisted of 13 blouses selected from the Textile Art Museum, Faculty of Family and Community Sciences, The Maharaja Sayajirao University of Baroda. The purposive sampling technique was used to identify these garments based on their:

- Place of origin
- Risk of deterioration.
- Lack of prior documentation.

4.2 Collection of Data

Both primary and secondary sources were used for data collection, including museum archives, curator interviews, books, research articles, websites, and textile documentation reports. The selected blouses were carefully observed, handled with care, and preserved throughout the documentation process. A qualitative approach was employed, incorporating visual observation, questionnaires, high-resolution photography using a Canon D1300 DSLR, and manual measurements taken with a measuring tape. A pick glass of 1.5 cm size was used to analyse weave type and fabric count, ensuring detailed documentation. Each garment was thoroughly examined to gather data on fabric, weave type, and stylistic features. Detailed notes were recorded on key aspects such as place of origin, colour, fabric, embellishments, stylistic elements (darts, pleats, necklines), fastener attachments, seams, and ornamentation, ensuring a comprehensive and systematic documentation process.

4.2.1 Data Collection from Textile Museum Professionals

To gain insights into the documentation, curation, and preservation of traditional garments, a questionnaire (Annexure) was distributed among professionals working in textile museums. This questionnaire aimed to understand the documentation methods, the challenges faced by professionals, and their perspectives on digital cataloguing and preservation practices. The responses received from textile museum professionals have been analysed and discussed in detail below.

The questionnaire was filled by 15 respondents from professionals associated with various reputed textile museums from different parts of the world, including:

1.) Ahmedabad Trunk Museum, (Ahmedabad, Gujarat, India)

2.) Dior Heritage, (Paris, France)

3.) London Museum, (London, United Kingdom)

4.) Textile Art Museum, (Vadodara, Gujarat, India)

5.) The City Palace Museum, (Udaipur, Rajasthan, India)

6.) Cultural Institute of Museums, (Tehran, Iran)

7.) Jaisalmer Fort Palace Museum, (Rajasthan, India)

8.) Mehrangarh Museum Trust, (Jodhpur, Rajasthan, India)

9.) Museum of Applied Arts, (Budapest, Hungary)

10.) Theatre Museum, (Vienna, Austria)

11.) Sardar Vallabhai Patel Museum, (Surat, Gujarat, India)

12) Sadberk Hanim Museum, (Turkey, Istanbul)

13.) NID Achieves, (Ahmedabad, Gujarat, India)

Figure 4.1 represented the distribution of professionals based on their years of experience, with data from 15 responses. The highest percentage (40 Per-cent) of respondents fell into the 5–10 years' category, indicating that a significant portion of professionals have mid-level experience. The second largest group, comprising 33.3 Per-cent, consists of professionals with less than 5 years of experience, suggesting a mix of early-career individuals. A moderate representation (13.3 Per-cent) was seen in the 11–15 years' category, indicating a relatively lower number of professionals in this experience range. The lower representation was observed in the 16–20 years' category, making it the smallest group, showing fewer professionals with this level of experience. Additionally, a small segment represents professionals with more than 20 years of experience,

highlighting a presence of experienced professionals but in lower numbers. Majorly (73.3Per-cent) of professionals had 10 years or less of experience, which could suggest an industry with a growing or young workforce. The number of highly experienced professionals (16+ years) was relatively low, indicating that retention beyond this period might be a challenge or that fewer people remain in the industry for very long.
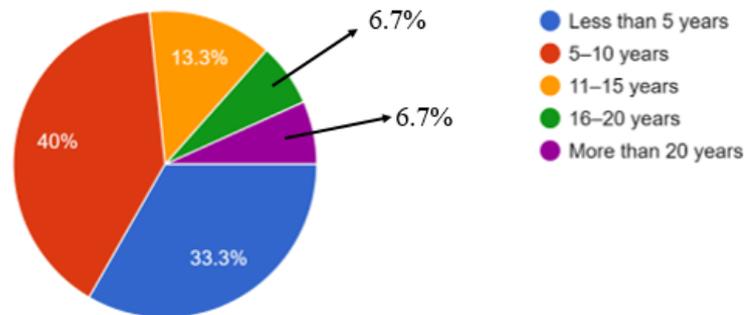
Figure 4.1: Experience of Professionals

The responses regarding the roles and responsibilities of professionals working in textile museums highlighted a diverse range of crucial tasks. Curation played a fundamental role, involving the selection, organization, and display of textile artifacts to communicate their historical and cultural significance**.** Conservation and restoration efforts focused on preserving garments through controlled environmental conditions and specialized preservation techniques. Professionals also engaged in research and documentation**,** studying historical textiles, fabric compositions, weaving techniques, and embellishments, while simultaneously working on archiving and digital cataloguing by developing high-resolution records with technical specifications. Public engagement and education were emphasized through exhibitions, workshops, and interactive sessions that promoted textile heritage. Additionally, museum professionals addressed textile bio-deterioration management, tackling microbial growth and lichen colonization that threatened fabric integrity. Costume conservation and mounting ensured that historical garments received structural support and were appropriately displayed. Preservation and preventive conservation strategies, such as climate control and pest management, were employed to mitigate potential risks. The integration of archaeology and museography allowed for a broader study of textile-related artifacts within historical contexts. Digitization and textile conservation were recognized as essential modern techniques for restoring fragile textiles and ensuring their long-term preservation. Additionally, experts worked on metal and mural conservation, particularly for textiles incorporating metallic

threads or those forming part of composite artifacts. Specialization in early fabrics, tapestries, and costumes facilitated the study, restoration, and documentation of early textile forms. Furthermore, weaving techniques and analysis played a significant role in examining traditional weaving methods, natural dye applications, carpet and kilim weaving, and textile pattern reconstruction. Collectively, these responsibilities underscored the multidisciplinary expertise required for the preservation, study, and promotion of textile heritage within museums.

The respondents were asked about how individuals entered the field of textile museums, and they shared several key steps for aspiring professionals. Obtaining an academic background in Textile Conservation, Museology, Art History, or Heritage Studies was highlighted as an essential first step, providing a strong theoretical foundation in textiles and museum practices. Gaining practical experience through internships and volunteering at textile museums, heritage organizations, or cultural institutions was emphasized as a crucial way to understand real-world conservation and curation work. Networking and professional development played a significant role, with respondents recommending engagement with museum professionals, attendance at heritage conferences, and participation in textile conservation workshops to gain exposure and learning opportunities. Specializing in areas such as textile conservation, costume mounting, digital cataloguing, or preventive conservation was seen as a way to develop skills and enhance job prospects. Conducting independent research on historical textiles, publishing articles, or working on documentation projects was also suggested as a means of building a strong portfolio for museum-related roles. Finally, respondents noted that career opportunities in this field often begin with entry-level positions such as Museum Assistant, Textile Cataloguer, and Conservation Technician, which serve as a foundation for advancing into curatorial and research positions.

The question regarding the decision to work in textile museums was influenced by various factors, with the majority of respondents selecting their museum due to academic and research interests. Some professionals, including a Ph.D. in Archaeology, were drawn to museums seeking expertise in specific fields, while others engaged with institutions like the Textile Art Museum due to its extensive collection of Indian textiles. Several respondents had a deep interest in textile techniques and historical clothing, which guided them toward museums specializing in textiles. Others transitioned from internships or

graduation projects into full-time roles. Institutional and professional recommendations also played a role, as some respondents were referred by established organizations such as Mehrangarh Fort, Jodhpur, or were offered opportunities through institutions like NID Archives. Additionally, hands-on work and career exposure attracted professionals who valued practical experience, with some highlighting their love for working with textiles and the growth opportunities available in museums like Sardar Vallabhbhai Patel Museum. Proximity and convenience influenced a few, especially those working within their university department, making the transition seamless. Institutional reputation and global opportunities were also deciding factors for some professionals aiming to gain international exposure. Interestingly, one respondent attributed their career in textile museums to pure chance, demonstrating the diverse and sometimes unexpected paths into the field. Overall, while academic passion and research alignment were the dominant motivations, career growth, institutional recommendations, and practical engagement also significantly shaped professionals' decisions to work in textile museums.

Respondents shared diverse experiences regarding their work with textiles and garments in museums. Some professionals emphasized the rewarding nature of handling historically significant textiles, studying their intricate weaving and embellishments, and contributing to heritage preservation. Many curators and conservators detailed their experiences in textile restoration, noting the challenges of working with fragile, centuries-old fabrics that require delicate handling and precise conservation techniques. Some respondents highlighted their involvement in research and exhibition curation, where they worked closely with designers, historians, and artisans to create engaging displays. Additionally, professionals engaged in digital cataloguing and textile documentation shared insights into the meticulous process of developing archival records, incorporating high-resolution imaging, and adapting innovative technologies like 3D visualization for textile preservation. While many found their roles fulfilling, some mentioned the difficulties posed by resource constraints, lack of standardized documentation protocols, and the ongoing battle against fabric deterioration. Despite these challenges, the respondents expressed a deep passion for their work and emphasized the significance of their efforts in preserving textile heritage for future generations.

When asked about the size and types of textiles in their museums, the responses revealed a diverse range of collection sizes and textile types. The Figure 4.2 illustrates collection

sizes, based on 15 responses, showed that the largest segment (40 per-cent) comprised museums housing more than 500 garments, indicating that a significant portion of institutions maintain extensive textile archives. Two categories, "Less than 100 garments" and "100-500 garments," each accounted for 13.3 per-cent of responses, representing museums with relatively smaller collections. Other responses highlighted notable variations, including museums with approximately 25,000 objects (6.7 per-cent), 20,000 objects (6.7 per-cent), and around 4,000 items (13.4 per-cent), showcasing the wide range
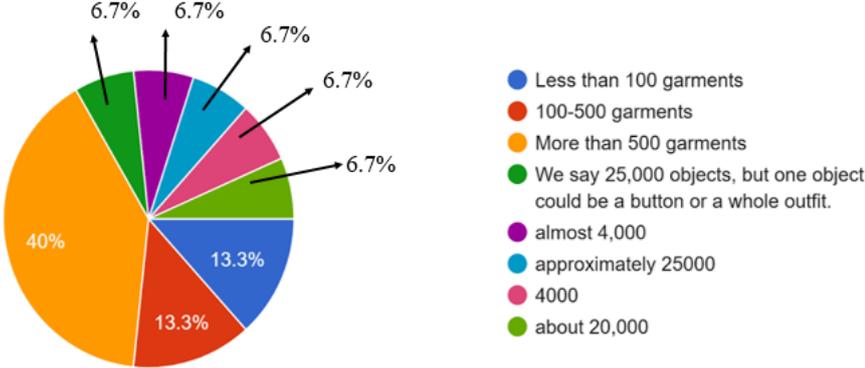
of textile holdings across institutions. One respondent noted that a single object could range from a button to an entire outfit, emphasizing the diverse nature of museum inventories.

Figure 4.2: Size of the Textile Collection

Figure 4.3 detailed the types of textiles found in museum collections, also based on 15 responses, provided further insight into their composition. Embroidered textiles were the most common, with all 15 respondents (100 per-cent) confirming their presence in their collections. Large textiles, including rolled or flat pieces, were reported by 14 respondents (93.3 per-cent), indicating their significant representation in museum archives. Traditional garments, printed textiles, painted textiles, and small textiles were equally prevalent, with 13 museums (86.7 per-cent) preserving each of these types, reflecting the emphasis on conserving a variety of historical and cultural textiles. Additionally, 26.7 percent of respondents indicated the presence of textiles that did not fit into the predefined categories, suggesting that museums also house unique or specialized textile artefacts. The data highlights the richness and diversity of textile collections in museums, with

embroidered and large textiles being particularly prominent, while the "Other" category points to the potential for further exploration of lesser-known textile forms
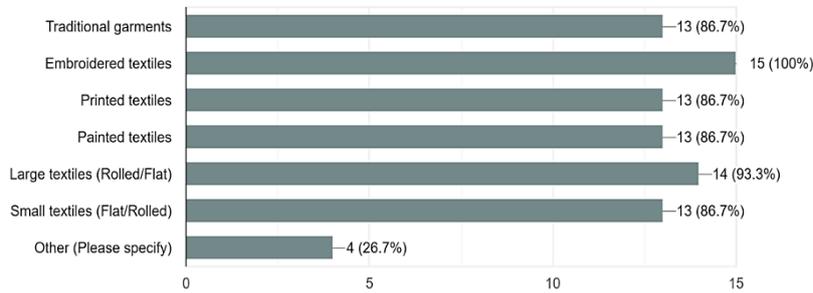
Figure 4.3: Types of Textiles in the collection

The museum professionals were asked about methods used in documenting traditional garments where Figure 4.4 represents the methods used for documenting traditional garments in museums, based on 15 responses'-Axis represents the number of responses for each documentation method, ranging from 0 to 15. Y-Axis lists the different documentation methods used by museums.

The documentation of textile collections relies on various methods, with written descriptions and documentation (93.3Per-cent) and photography (93.3Per-cent) being the most common, used by 14 respondents to record garment details both textually and visually. Digital cataloguing software (73.3Per-cent) was also widely adopted, with 11 respondents utilizing tools for efficient record-keeping and collection management. Videography (20Per-cent), employed by 3 respondents, serves purposes such as educational documentation and conservation tracking. Less commonly used yet specialized methods include other approaches (13.3Per-cent), cited by 2 respondents, and digital platforms like Filemaker Pro, Jatan, TMS, Mimsy XG, IR-UV scientific photography, Word, etc. (each at 6.7Per-cent), used by 1 respondent each, suggesting selective adoption in specific institutions.

Beyond these conventional methods, professionals incorporated additional techniques in documentation and conservation. Historical research involved gathering archival records, donor information, books, and scholarly sources to authenticate garments, while oral histories engage weavers, designers, and textile historians to understand weaving techniques and regional aesthetics. Physical documentation included microscopic analysis to study fabric composition, thread count, dyeing techniques, and signs of wear. Digital documentation enhanced archival efforts through high-resolution photography,

capturing garments from multiple angles, 3D scanning for texture mapping and visualization, and digital pattern-making to reconstruct traditional blouse styles. In terms of storage and conservation, measures such as climate-controlled environments regulate temperature and humidity, acid-free archival boxes and tissue paper prevent fabric degradation, and periodic assessments and fumigation help control deterioration caused by pests or mould. These combined approaches ensured the meticulous preservation and documentation of traditional garments for research and exhibition purposes.

The findings highlighted a strong reliance on written descriptions, photography, and digital cataloguing in museum documentation. While some institutions employ advanced technologies like 3D scanning and scientific photography, these remain less common. Additionally, historical research, oral histories, and specialized conservation techniques play crucial roles in preserving textile heritage.
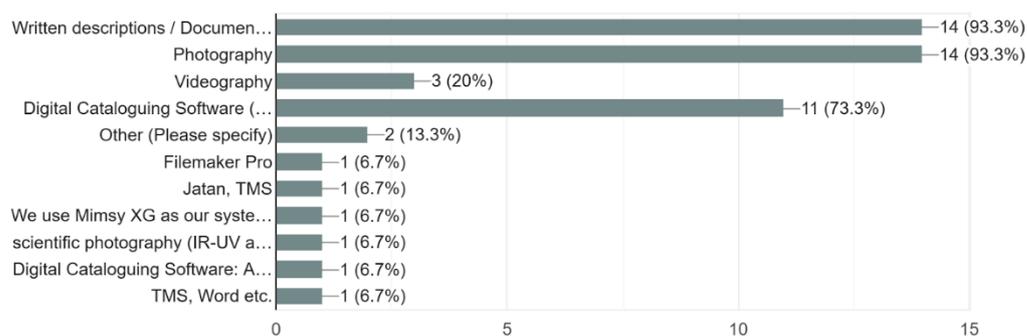
Figure 4.4: Methods of Documentation and Preservation

Museums typically store a large portion of their textile collections behind the scenes, with only a small percentage being publicly displayed. Based on 15 responses, the majority of museums store 70Per-cent or more of their textile collections, with only 30Per-cent or less being publicly displayed. Five respondents indicated that only 1Per-cent to 5Per-cent of their collections are on display, while three respondents reported display rates between 15Per-cent and 25Per-cent, making them exceptions rather than the norm. Institutional factors such as renovations and limited exhibition space influence display percentages, as noted by four respondents who mentioned that their main buildings are temporarily closed, reducing exhibition opportunities. Additionally, one respondent highlighted plans to establish a new textile museum in Yazd, Iran, which will showcase a significant number of textiles. Overall, the data suggests that textile museums prioritize preservation

and storage over continuous public display, largely due to space constraints, conservation needs, and temporary closures for renovations.

Museum professionals were asked about the condition of textiles in their collections, as represented in the bar graph based on 15 responses. The Figure 4.5 represents the condition of textiles in museums based on 15 responses. X-Axis Represents the number of responses (0 to 15), indicating how many textiles fall into each condition category. Y-Axis Represents different condition categories of textiles, including:

- Excellent – Intact and well-preserved
- Good – Minimal wear, slight discoloration
- Fair – Visible wear, minor damage
- Poor – Noticeable damage (tears, stains)
- Very Poor – Fragile condition, high degradation
- Restored – Previously damaged but conserved
- Deteriorating – Actively worsening condition
- Not Assessed – Condition not categorized

The most common condition category was Fair (93.3 per-cent), indicating that textiles exhibited visible wear but retained historical value. Good condition textiles (80 per-cent) suggested minimal wear, while Poor (66.7 per-cent) and Very Poor (33.3 per-cent) categories highlighted significant damage that required urgent care. Restored textiles (46.7 per-cent) showed that conservation efforts had been undertaken, yet 40 per-cent remained Deteriorating, needing immediate intervention. Additionally, 40 per-cent of textiles had not been assessed, pointing to documentation gaps. While some textiles were in Excellent (40 per-cent) condition, the data underscored the need for improved preservation efforts and thorough documentation to safeguard textile heritage.The data reveals a pressing need for textile conservation in museums, with a high percentage of textiles showing or visible damage deterioration. While some textiles are in excellent or good condition, ongoing restoration and preservation efforts are essential to protect these

artifacts. Additionally, improved documentation and condition assessment can help address gaps in textile conservation strategies.
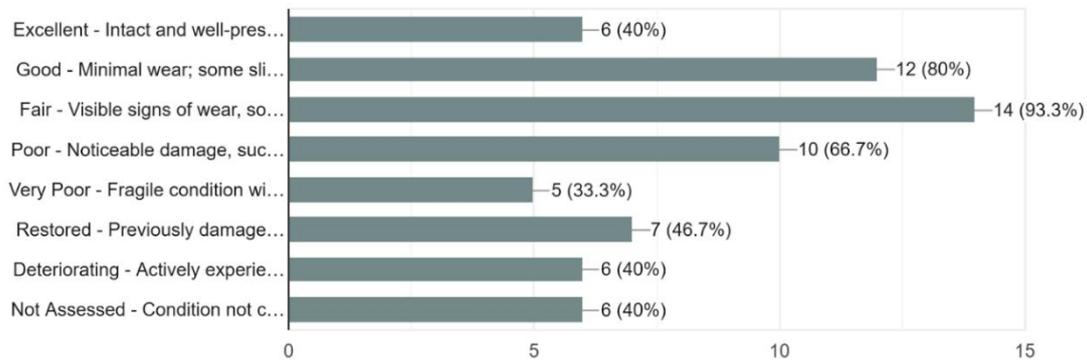
Figure 4.5: Condition status of textiles in their museums

When asked about the sources through which garments were acquired for museum collections, professionals described a variety of methods including donations, purchases, gifts, and family contributions. Many institutions relied on donations from private collectors, royal families, alumni, and research contributors, which ensured a rich and diverse collection. Some museums acquired garments directly from fashion shows, while others purchased historic pieces when necessary although purchasing was often rare due to budget constraints. Royal collections, such as those from the House of Mewar and the Jaisalmer royal family, contributed significantly to museum archives, helping preserve heritage garments. Additionally, older museums-maintained relationships with long-established vendors who supplied garments and textiles. In some cases, curators and researchers played a key role in sourcing textiles through research samples and acquisitions.

This varied approach to acquiring garments highlighted the collaborative efforts between museums, donors, designers, and heritage institutions in preserving textile history. However, funding limitations and ethical concerns regarding acquisitions remained challenges in expanding collections.

Following the discussion on garment acquisition, respondents were asked about the criteria used for selecting textiles for museum display. Figure4.6 represented responses from 15 participants. The X-axis showed the number of responses per criterion (0–15), while the Y-axis listed the selection criteria, such as historical significance, cultural

representation, condition, aesthetic appeal, rarity, educational value, public interest, symbolic importance, craftsmanship, and display suitability.

Historical significance and condition/preservation status emerged as the most influential factors, each receiving 13 responses (86.7 Per-cent). Cultural representation followed with 12 responses (80 Per-cent), reflecting its importance in curatorial choices. Suitability for display conditions (73.3 Per-cent) and aspects like aesthetic appeal and rarity (each 60Per-cent) were also frequently considered. Lesser but still relevant criteria included educational value, public interest, and craftsmanship (each 46.7Per-cent), while symbolic or ceremonial importance (40 Per-cent) received relatively less emphasis. Only one respondent (6.7 Per-cent) believed all criteria were equally important.

The findings suggested that museums prioritized garments with strong historical value and stable condition. Cultural relevance and visual appeal were also key considerations, while uniqueness added value to the collection. Although educational and public engagement factors were noted, they appeared secondary to preservation and historical merit. This highlighted a thoughtful and layered approach to garment selection for display.
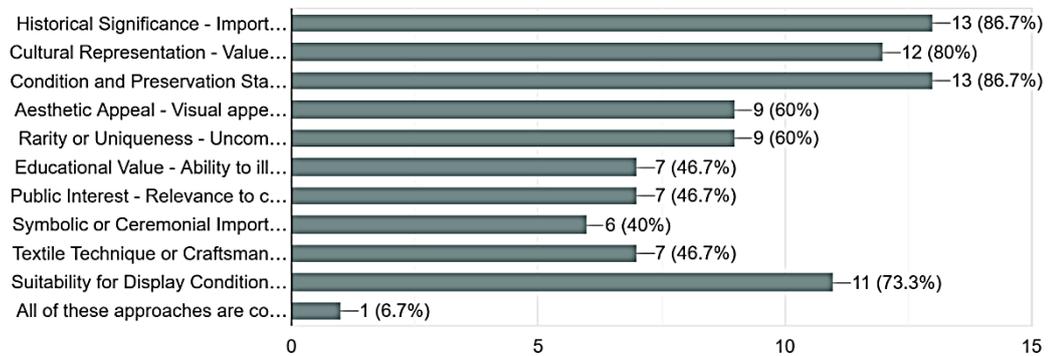
Figure 4.6: Criteria for selecting textiles in museums for the display

Building on the factors influencing garment selection, respondents also identified key challenges in textile documentation and preservation. The Figure 4.7 represented responses from 15 participants. Despite advancements in preservation, museum professionals faced persistent difficulties in documenting textiles. A major challenge was the lack of provenance information (20 per-cent), making it difficult to trace a garment's ownership and historical context. Deterioration due to age and environmental factors further weakened fabrics over time. Limited storage space and infrastructure (13.33 per-cent) led to overcrowding and increased risks of damage. Financial constraints restricted museums from adopting advanced conservation techniques and hiring skilled professionals. Technical challenges in digital archiving (6.67 per-cent) arose due to the need for specialized equipment and expertise. Standardization issues in documentation methods led to inconsistencies across museums. Other difficulties included inadequate testing instruments, limited personnel, and time constraints (each 6.67 per-cent). 13.33 per-cent of respondents reported no challenges, while 6.67 per-cent stated they were not directly involved in documentation, indicating gaps in responsibility. These findings underscored the need for improved documentation practices, better resource access, and enhanced digitalization to support textile heritage preservation.
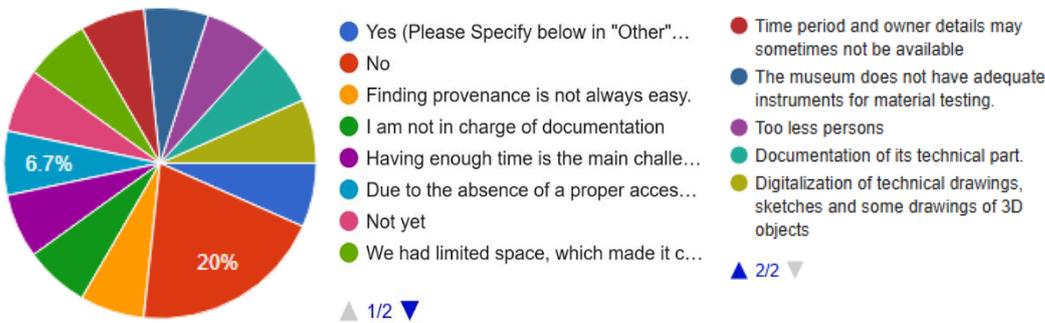
Figure 4.7: Criteria for selecting textiles in museums for the display

Following the discussion on documentation challenges, participants also shared the preservation methods used to store garments in museum collections. Based on responses from 15 participants, figure 4.8 showed various techniques adopted for garment care.

The most commonly used method was acid-free storage boxes, reported by 14 respondents (93.3 per-cent), followed by flat storage (80 per-cent) and climate-controlled storage (73.3 per-cent). Light-controlled rooms, regular condition checks, and pest control were each used by 11 respondents (73.3 per-cent), emphasizing the role of

environmental monitoring. Protective covers or garment bags were used by 10 respondents (66.7 per-cent), while hanging storage with padded hangers was used by 9 (60 per-cent). Humidity absorbers or desiccants were used by 8 respondents (53.3 per-cent), and specialized shelving for rolled storage was the least used, with 5 respondents (33.3 per-cent).

A few respondents (6.7 per-cent) believed all methods were equally important, while another 6.7 per-cent cited funding limitations as a barrier. These findings indicated that museums prioritized acid-free storage and climate control, though financial constraints still affected comprehensive preservation practices.
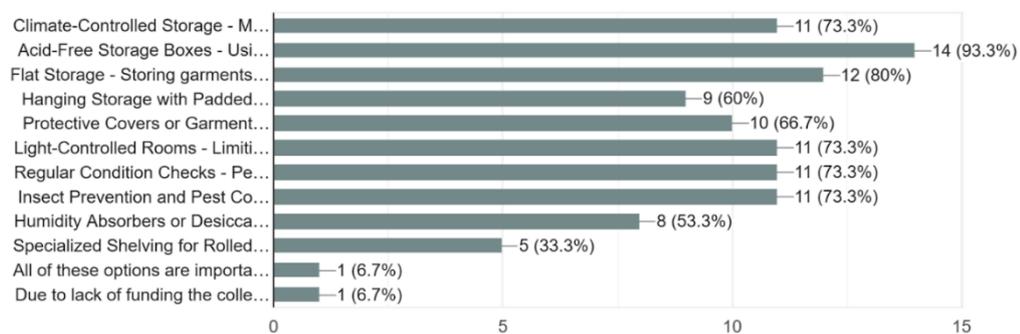
Figure 4.8: Methods used to store and preserve garments in the museum's collection

Fragile or deteriorating textiles are handled with extreme care, with respondents emphasized minimal physical contact and the use of specialized support materials. Several respondents highlighted the importance of controlling measures based on the textile's condition, including preventive and curative treatments. Proper documentation and conservation treatments are conducted, with trained staff handling textiles under the supervision of curators and senior conservators. Many respondents used acid-free tissue paper, acid-free cardboard, or cotton fabric (starch-free and unbleached) to provide support and prevent damage. Handling boards, trays with rigid supports, and specialized trolleys were employed to ensure safe movement, while textiles were often wrapped in acid-free paper, stored flat, or sewn onto a backing material for additional stability. Climate-controlled storage with stable temperature and humidity levels were also a crucial preservation strategy. Some respondents preferred to avoid handling altogether, entrusting conservators with the task when necessary. When handling was required, clean, washed hands or gloves are used, and in some cases, two persons assist to distribute the weight evenly. Large workspaces were maintained to accommodate fragile pieces safely, and repeated touching was strictly minimized. Overall, the responses highlighted

a meticulous approach to handling fragile textiles, ensuring their longevity through controlled environments, trained personnel, and minimal intervention.

Remedial conservation techniques for traditional textiles vary based on the condition of the textile and the collection policies of different institutions. Some respondents emphasize cleaning, regular inspection, and monitoring of environmental factors such as humidity, temperature, and air pollutants. Surface cleaning, localized humidification to relax creases, and reinforcement with sheer, color-matched support fabrics are commonly employed techniques. Stitching with fine silk threads is used to stabilize tears, ensuring minimal intervention while preserving the textile's integrity and historical value. Some respondents mention the use of a specialized vacuum for cleaning, though fragile textiles are handed over to conservation specialists for proper care. Backing materials and laid couches are also used for additional support. Storage conditions are maintained at 40-60Per-cent RH (with no fluctuation of more than 5Per-cent in an hour), light exposure is kept under 50 Lux, and temperature is regulated between 22-25°C to prevent deterioration. While some institutions do not house traditional textiles, those that do prioritize scientific and minimally invasive methods for conservation, ensuring extended longevity through controlled environmental conditions and preventive care.

Building on the discussion of storage and preservation methods, participants also highlighted the preventive measures taken to safeguard fragile textile collections. Based on 15 responses, the most widely adopted measure was the use of protective storage materials (93.3 per-cent), ensuring controlled preservation. Figure 4.9 illustrates the preventive measures taken by museums for safeguarding fragile textile collections, based on 15 responses. The x-axis represents the number of responses, ranging from 0 to 15, while the y-axis lists the different preventive measures implemented. The most widely adopted measure is the use of protective storage materials (93.3Per-cent), ensuring textiles are preserved in controlled environments. Pest control programs (86.7Per-cent) and restricted public access (86.7Per-cent) are also crucial, preventing physical damage and infestations. Controlled lighting conditions (73.3Per-cent), temperature and humidity control (73.3Per-cent), and handling protocols with staff training (73.3Per-cent) play a significant role in maintaining fabric integrity. Additionally, regular condition assessments (66.7Per-cent) and separation of fragile items (60Per-cent) help in monitoring and preventing deterioration. Minimized display time through rotation

(40Per-cent) is used to reduce exposure, while air filtration systems (26.7Per-cent) help maintain air quality around the textiles. Notably, one respondent (6.7Per-cent) mentioned that no preventive measures are currently in place in their museum. Overall, the data highlighted a strong emphasis on storage conditions, environmental controls, and handling protocols to ensure the long-term preservation of fragile textiles.

Figure 4.9: Preventive measures taken by the museum for safeguarding the fragile textile collection
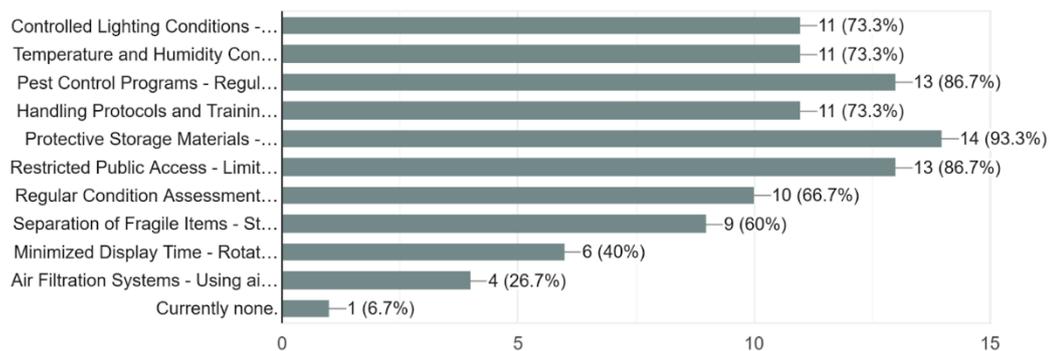
In addition to implementing preventive measures, museums also focused on sourcing garments to enhance their collections. Based on 15 responses, 66.7 per-cent collaborated with designers, collectors, or donors, emphasizing the role of external contributions in expanding textile archives. However, 33.3 per-cent did not engage in such collaborations, relying instead on internal sourcing or specific donation channels. This highlighted that while partnerships were common, some museums still operated independently in garment acquisition.
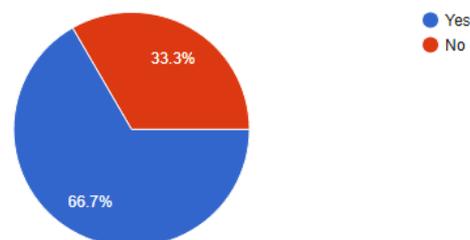
Figure 4.10: Do they collaborate with designers, collectors, or donors for sourcing garment

Gathering provenance information for garments in museum collections involved multiple approaches, depending on the institution and the availability of historical records. Some

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museums, particularly those focused on specific regions, found it easier to obtain provenance details, as seen in the case of a museum dedicated to the Kutch region, where a localized focus simplified information gathering. Research was a common method, utilizing sources like old newspapers, Ancestry databases, old museum catalogues (index cards), archival records, and other museum documentation, where each object or group of objects had a dedicated file. Some institutions had libraries that aided in research.

In cases where provenance details were missing, a combination of methods was employed, including consulting department staff, analyzing similar pieces from other collections, conducting material analysis, and studying traditional textile techniques to trace the garment's origin and cultural significance. Museums with royal family collections, such as those from Mewar, often relied on pre-existing records provided by the families, supplemented by archival data like the daily records of Maharanas of Mewar and bahikhatas (ledger books). Experts, previous owners, and museum catalogue histories also served as key sources of provenance data.

Art historians contributed by searching international literature and conducting interviews with owners. Some professionals emphasized documenting as much as possible during accession to ensure comprehensive records. Pre-existing research, such as that by Madhurima Patni, played a significant role in certain collections, while others depended on books, the internet, and personal interviews. If donor or previous owner details were available, museum professionals tried to contact them or their immediate family, and if not, they reached out to other museums, curators, and textile conservators for insights. Additionally, provenance information was gathered through direct interviews with donors during procurement, along with methods such as place of purchase verification, technical review, and analysis to ensure accurate documentation of the garment's origins.

The responses illustrate the extent to which museums are involved in digitizing traditional garments and the tools they use for this purpose. Out of 15 responses, 53.3 per-cent indicated that their museums were actively working on creating digital copies or representations of traditional garments, reflecting a growing trend toward digital documentation and preservation. Meanwhile, 46.7 per-cent reported that their museums were not engaged in digitization, suggesting that nearly half of the surveyed institutions had yet to adopt this practice. The results highlight a near balance between museums digitizing their collections and those that are not, underscoring the need for further efforts

to encourage digital preservation, which can enhance accessibility, research opportunities, and long-term conservation of traditional garments.

Regarding tools and software used for digitization, responses indicated a diverse approach to documentation and preservation. Some museums relied on specialized museum management software such as FileMaker Pro, Mimsy XG, and TMS software for cataloging and digital archiving, while others used general-purpose software like Photoshop, Corel, MS Excel, MS Word, and Google Drive to manage, edit, and store digital records. Digital photography played a significant role, with scientific imaging methods such as IR-UV photography and digital loop microscopes, along with standard digital cameras, being used to capture garment details. Some institutions also engaged students and faculty in photography and digitization efforts within institute studios. However, a few respondents indicated that their museums lacked a structured digitization process or had not yet decided on specific software. Additionally, while some institutions incorporated textile techniques and illustration programs in their documentation, digital tools were used less frequently in these cases. The varied responses reflect different levels of technological integration in museum digitization efforts, ranging from structured software systems to basic photography and documentation methods.
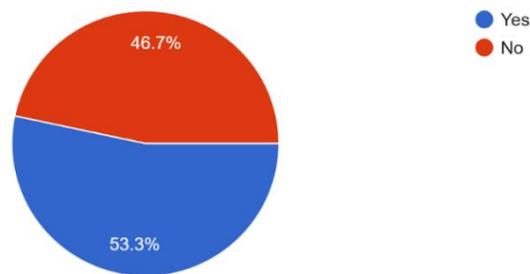
Figure 4.11: Is the museum involved in digitizing traditional garments

Museums not only digitized their textile collections but also shared their documentation efforts through various methods. Exhibitions were the most common approach, with 80 per-cent (12 out of 15) of respondents indicating that museums showcased their research through curated displays. Publications were another significant method, used by 66.7 per-cent (10 respondents) to share findings. Digital access was provided by some institutions, as noted by 33.3 per-cent (5 respondents), allowing researchers and the public to explore collections online. Less common methods included dissertations, theses, educational activities, and sharing upon request of academic researchers, each accounting for 6.7 per-cent (1 respondent). Additionally, one museum had not yet made its documentation public. While exhibitions and publications remained widely used, digital accessibility and research-focused sharing were less common.

Digital pattern-making of traditional garments was not widely practiced in museums, as most respondents indicated that their institutions did not engage in this process. Some responses suggested a lack of initiative, while a few mentioned isolated efforts, such as a single dissertation focused on creating digital patterns. Certain individuals used tools like CAD, Lectra software, Photoshop, and Illustration for digital pattern creation, and both hand-drawn and digital illustrations had been explored by different people.
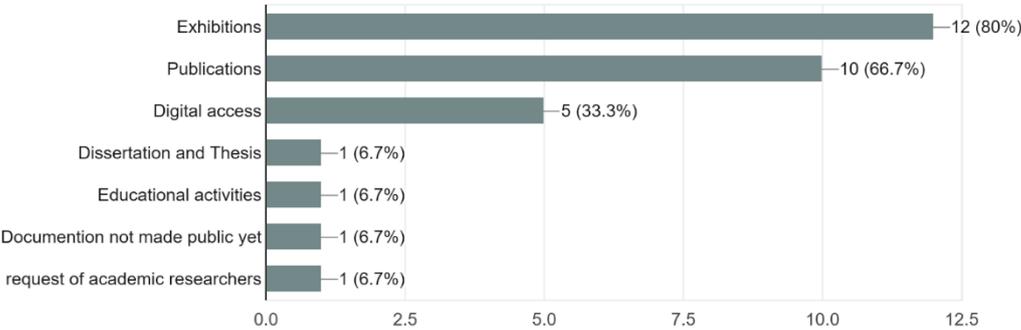
Figure 4.12: Museum share its textile documentation efforts with the public or academic researchers

Alongside documentation efforts, museums also followed specific processes for cataloguing garments. While some institutions used structured systems like the tripartite system, common steps included accessioning, documentation, photographing, condition reporting, and database entry. Museums typically began by creating an ID card detailing the garment's physical characteristics, reviewing existing databases, and consulting experts. Temporary storage was often required before detailed documentation with the

help of conservators. If a garment was in poor condition, it was treated before final storage. Cataloguing involved measuring, listing materials, providing descriptions, and adding contextual details. Photography played a crucial role, sometimes including microscopic and paper documentation. Some institutions maintained specialized cataloguing sheets and digitization processes, ensuring a systematic approach handled by dedicated teams for inventory, research, condition assessment, and technical analysis.

Figure 4.13 illustrates the specific information collected when cataloguing a garment, based on responses from 15 participants. The x-axis represents the number of responses, while the y-axis lists the different types of information recorded. All 15 respondents (100 per-cent) documented garment type, material or fiber content, date and place of origin, previous ownership or provenance, and historical context. Construction techniques, ornamentation, dimensions, and related documentation, such as photographs or records, were collected by 14 respondents (93.3 per-cent). Condition status and garment usage were noted by 13 respondents (86.7 per-cent), while cultural or symbolic significance was recorded by 12 respondents (80 per-cent). Display and storage requirements were considered by 10 respondents (66.7 per-cent), whereas color and dye information was collected by only 9 respondents (60 per-cent). One participant (6.7 per-cent) indicated that they gathered every available detail. These findings suggest that while provenance, material, and historical significance were widely prioritized, aspects like color and storage received comparatively less emphasis.
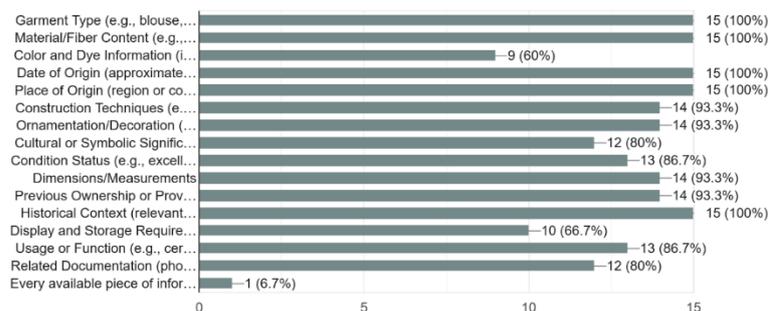
Figure 4.13: Specific information collected when cataloguing a garment

To gather information on a garment's origins, techniques, and historical context, respondents used various methods. While cataloguing focused on documenting essential details, additional research was conducted to verify and expand upon this information. Some respondents engaged directly with donors or previous wearers whenever possible, while others relied on subject experts, conservators, historians, and traditional craftsmen.

Studying similar garments, analyzing textile techniques, and referring to historical records helped in building a comprehensive understanding. Previous museum documentation and information from collection owners also served as key sources. In certain cases, traditional records like the *Bahikhata* were consulted, while art historians and restorers examined garments in detail. Some institutions used tools like TMS (Transportation Management System) for managing related data. Additionally, research through textile books, history books, internet sources, and museum archives further contributed to gathering relevant details.

Museums ensured that the information presented to visitors was both informative and engaging through various approaches. A structured, curated walkthrough enhanced the visitor experience, while engaging display methods relied on an effective marketing team. Presenting information in clear, accessible language, avoiding excessive technical terms, and incorporating visually appealing displays helped maintain interest. Highlighting intriguing stories or facts related to garments further enriched the experience.

Frequent visitor surveys allowed museums to gather feedback and refine their presentation strategies. Academic research formed the foundation of reliable content, with newer museums often following a thematic narrative. Audio guides provided an interactive element, while curator-led survey programs helped assess audience responses. Continuous review of visitor feedback ensured that engagement methods evolved over time.

Additional strategies included intensive research, accessible documentation, and detailed displays of garment construction. Creating a visual or auditory storyline enhanced the exhibition's narrative appeal. However, some respondents noted that they were not directly involved in this aspect of museum operations.

When asked to respond about their use of specific books, archives, or oral histories for documentation, most participants confirmed relying on documented sources. A majority, 73.3 per-cent (11 respondents), stated that they used these resources for research and documentation. In contrast, 20 per-cent (3 respondents) mentioned that they did not refer to any specific sources. Additionally, 6.7 per-cent (1 respondent) specifically cited *Traditional Indian Textiles* by Dr. Anjali Karolia as a reference. These findings indicated that while most respondents valued documented sources, a smaller proportion either did not utilize them or had a particular preference for a specific book.
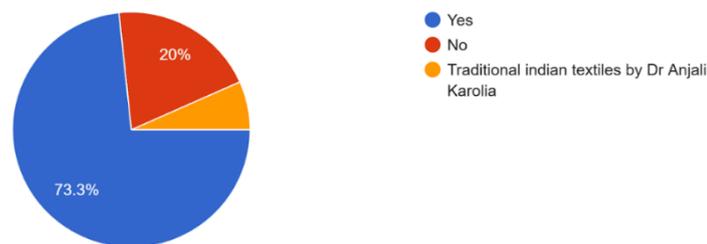
Figure 4.14: Resources for Research and documentation

When asked about the impact of museum garment displays on visitors' understanding of textiles and culture, the 15 respondents shared diverse perspectives. Four respondents emphasized that these exhibits evoked fascination, nostalgia, and personal memories associated with textiles. Two respondents highlighted that garment displays provided insights into the origin, usability, and historical significance of textiles, helping visitors connect with their cultural heritage.

One respondent noted that textiles could evoke empathy, as people imagined what it was like to wear these garments, while another mentioned that museums like the London Museum focused more on the biography and history of garments rather than their making and techniques. Three respondents pointed out the educational value of such displays, explaining how they provided information on traditional techniques, design, material, and textile production methods that were rarely seen today. Two respondents observed that visitors were particularly curious about who had used the textiles, and guided tours or catalogues further enhanced their understanding.

However, two responses indicated that some collections were not yet on display, limiting their current impact. One respondent remarked that clothing served as a visual map of human migration and cultural exchanges, illustrating both similarities and differences

across regions. Another respondent acknowledged that despite a smaller collection, museums could still convey the significance of textiles, particularly in regions like Surat, which had a strong textile heritage. Overall, the responses suggested that museum garment displays played a crucial role in enhancing visitors' appreciation of textile heritage, cultural diversity, and historical significance.

When asked about the challenges in the cataloguing process, the responses from the 15 participants revealed various difficulties. Four respondents simply stated "Yes," indicating that challenges existed, while one respondent explicitly stated "No," suggesting they did not face any difficulties in this process. One respondent highlighted that maintaining digital records required high-quality photographic documentation, which posed a challenge. Another respondent pointed out that not every material could be identified by sight, and the lack of scientific equipment made material analysis difficult. They also mentioned difficulties such as the lack of knowledge about certain garments and struggling to find the right words to describe complex pieces.

One response elaborated that cataloguing challenges included incomplete provenance information, difficulty in identifying materials or techniques, and the time-consuming nature of accurate documentation. Additionally, they noted that limited storage space and the need for specialized textile conservation knowledge further complicated the process. One respondent stated "Not yet," possibly indicating that they had not faced challenges but anticipated them in the future. Another respondent mentioned a limited budget, while another highlighted the shortage of qualified personnel as a key issue. One response referred to previously mentioned challenges without repeating them.

Overall, the responses suggested that the cataloguing process was hindered by technical, financial, and knowledge-related limitations, requiring better resources, expertise, and infrastructure to ensure thorough and accurate documentation.

The responses regarding the challenges faced in the curation and preservation of garments, as illustrated in the bar graph, highlighted several key obstacles. The most significant challenge, reported by 14 respondents (93.3%), was the deterioration of textiles due to age, emphasizing the fragility of garments over time.

Limited storage space emerged as another major issue, with 13 respondents (86.7%) indicating difficulties in finding adequate storage solutions. Climate control limitations, such as maintaining optimal temperature and humidity for textile preservation, posed a challenge for 9 respondents (60%). Shortages in staffing or expertise affected 10 respondents (66.7%), impacting the ability to properly conserve and document garments.

Financial constraints were also a significant concern, as 8 respondents (53.3%) cited insufficient funding for conservation efforts and a lack of access to advanced preservation techniques. Additionally, difficulty in acquiring provenance information was noted by 6 respondents (40%), highlighting challenges in tracing the history and authenticity of garments.

Other challenges included pest and insect control, raised by 4 respondents (26.7%), underscoring the risk of fabric damage caused by biological factors. Handling and transportation risks, along with fading and light damage, were each mentioned by 3 respondents (20%), pointing to concerns about garment movement and exposure to light affecting textile longevity.

Overall, the Figure 4.15 highlights the aging of textiles, storage constraints, environmental control, funding, and expertise shortages as the primary obstacles in garment curation and preservation.
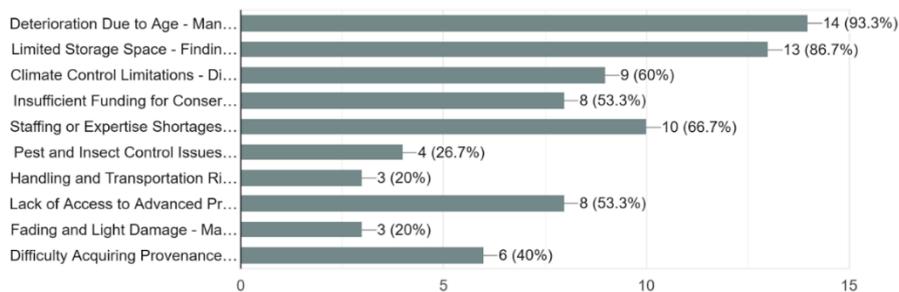
Figure 4.15: Challenges faced by the respondents for curation and preservation

When asked about the impact of the museum's exhibits on the appreciation of textile heritage, all 15 respondents unanimously agreed that they play a significant role. Figure 4.16 illustrates that 100% of participants selected "Yes," indicating a shared belief that the museum effectively showcases and preserves textile artifacts. This consensus highlights the museum's success in educating visitors about the cultural and historical

significance of textiles, reinforcing its role in fostering a deeper appreciation for textile heritage.
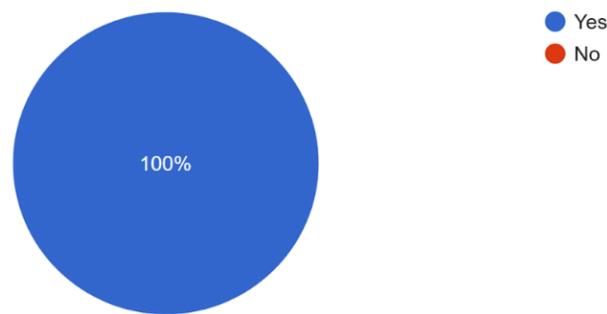
Figure 4.16: How does the museum share its textile documentation efforts with the public or academic researchers

The responses from 15 participants reflected the evolving landscape of textile curation, career opportunities, and research projects related to traditional garments.

Regarding career paths, participants highlighted a wide range of specialized roles within museum textile collections. Many emphasized that working in this field was both enjoyable and accessible for those passionate about textiles. Common career options mentioned included Curator, Textile Conservator, Collections Manager, Exhibit Designer, and Museum Educator. Additionally, emerging roles such as Digitization Specialist, Provenance Researcher, Mounter, and Conservation Specialist were also recognized. Some participants pointed out the growing international opportunities in this field, encouraging individuals to seek internships at renowned museums. Others suggested that starting with archiving and cataloging provided a strong foundation for careers in conservation or curation. The responses indicated that the field of textile collections had been expanding, offering diverse opportunities for individuals with varying expertise.

In discussing the future of textile curation, participants noted the increasing integration of digital technology and new conservation methods. Many viewed the field as having immense potential, with advancements such as virtual exhibits, 3D scanning, and digital documentation playing a crucial role in enhancing accessibility and preservation. Some respondents highlighted innovative features like virtual garment trials for visitors and digital recreation of fragile textiles to ensure safer handling. While the benefits of digitalization were widely recognized, others stressed the continued importance of

traditional preservation techniques, particularly in contexts where modern technology might not be as effective. Participants observed that the field remained relatively unexplored in India due to a shortage of textile conservators, but they anticipated significant developments in the coming years. The shift towards digital tools was expected to reduce garment handling, improve deterioration detection, and create more conservation-focused approaches while making museum collections more interactive and accessible.

When asked about recent research projects or exhibitions related to traditional garments, responses varied. Some participants noted that no recent projects had taken place in their institutions, while others referenced ongoing and past research efforts by organizations such as INTACH, IGNCA, Tata Trust, and NMI. Several respondents mentioned planned developments, including the redesign of a textile gallery and an interactive project on a Safavid Persian carpet in France, which used digital storytelling and advanced technology. Notable exhibitions cited included an Art Deco garments exhibition in Budapest, an Esterházy garments exhibition at the China National Silk Museum (2023), and Art Nouveau garments display at Ráth György-villa. Additionally, exhibitions in Delhi and Bangalore were mentioned, along with the TAPI collection, which was recommended for further research. Other notable showcases included *Elegance from Past to Future - Women's Costume from the Late Ottoman Empire to the Early Republican Era* and *Adorable & Precious - Children's Costumes in the Sadberk Hanım Museum Collection,* featuring historical garments from private collections. While some respondents were unaware of recent exhibitions, others highlighted ongoing research, digital integration, and international collaborations in the study and curation of traditional garments.

Together, these insights underscored the continuous evolution of textile curation, the diverse career prospects within the field, and the ongoing efforts to research and exhibit traditional garments worldwide.

4.2.2 High Resolution Photography

To create digital records, 13 blouses were carefully photographed using a Canon D1300 DSLR camera. A suitable background was chosen to highlight the details of each garment.

Each blouse was captured from multiple angles, including clear front and back views. Close-up shots were taken to show important details such as embellishments, embroidery, seams, openings, and any signs of wear or damage. These images helped document the fabric's texture and overall condition for future study and preservation. For some blouses, additional cups and stuffing were used to improve their shape and structure. This ensured that their original fit, drape, and design were accurately represented in the photographs. This careful photography process helped create a detailed digital archive, preserving the look and condition of the garments for research, exhibitions, and textile heritage documentation.

| Plate 4.1 (a) Blouse 1 Front | Plate 4.1 (b) Blouse 1 Back |

| Plate 4.2 (a) Blouse 2 Front | Plate 4.2 (b) Blouse 2 Back |

| Plate 4.3 (a) Blouse 3 Front | Plate 4.3 (b) Blouse 3 Back |

Plate 4.4 (a) Blouse 4 Front

Plate 4.4 (b) Blouse 4 Back

Plate 4.5 (a) Blouse 5 Front

Plate 4.5 (b) Blouse 5 Back

Plate 4.6 (a) Blouse 6 Front

Plate 4.6 (b) Blouse 6 Back

Plate 4.7 (a) Blouse 7 Front

Plate 4.7 (b) Blouse 7 Back

Plate 4.8 (a) Blouse 8 Front

Plate 4.8 (b) Blouse 8 Back

Plate 4.9 (a) Blouse 9 Front

Plate 4.9 (b) Blouse 9 Back

Plate 4.10 (a) Blouse 10 Front

Plate 4.10 (b) Blouse 10 Back

Plate 4.11 (a) Blouse 11 Front

Plate 4.11 (b) Blouse 11 Back

Plate 4.12 (a) Blouse 12 Front

Plate 4.12 (b) Blouse 12 Back

Plate 4.13 (a) Blouse 13 Front

Plate 4.13 (b) Blouse 13 Back

4.2.3 Visual analysis of the samples

The blouses were visually examined to document their fabric, weave type, motifs, and style features. Each blouse was laid on a muslin cloth to create a neutral background for observation and to protect it from dirt. Surface ornamentation and additional style features were also evaluated. A pick glass with a 1.5 cm square measurement was used to closely inspect the weave type, twist, ply and structure.
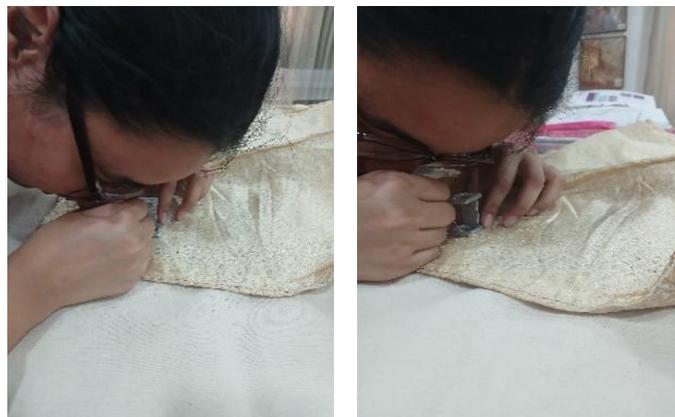
Plate 4.14: Visual analysis through pick glass

Blouse 1: Plain Blouse with Mashru Sleeves	
Aspects	**Details**
Accession Number	G13
Title	Plain Blouse with Mashru Sleeves
Colour	Teal (main body), bright pink, yellow with orange hints, dark green/greyish-green, purple (thin stripes), white/off-white (chevron pattern), black/dark purple (chevron pattern).
Texture	Smooth and soft on the Mashru sleeves (satin weave), slightly crisp and smooth on the main body (cotton-poplin).
Fibre Content	Main body: Staple Cotton (Poplin) Sleeves: Silk Floss (warp) and Staple Cotton (weft) in Mashru.
Warp	Main Body: Cotton Sleeves (Silk Mashru): Silk
Weft	Main Body: Cotton Sleeves (Silk Mashru): Cotton
Number of Warps	Main Body (Cotton): 46 Sleeves (Silk Mashru): 24
Number of Wefts	Main Body (Cotton): 46 Sleeves (Silk Mashru):48
Weave Type	Plain weave (1x1) (main body); Satin weave (5x1) (Mashru sleeves).

Twist	Main Body:	Sleeves:
	Wrap: Z- twist	Wrap: Untwisted floss
	Weft: Z- twist	Weft: Z-twist

Fabric Type	Cotton Poplin (main body), Striped Mashru (sleeves – silk and cotton union).
Fasteners	Seven metal hooks with eye closures on the back, with a 30 cm long and 4.5 cm wide right-over-left placket.
Ornamentation/Embellishments/Decorative Elements/Motifs	Chevron or Arrow (*Khajuria/Mamul*) motifs on the striped Mashru sleeves and borders; 0.5 cm bias binding piping on the neckline.

Table 4.2: Visual analysis of Blouse 2

Blouse 2: Yellow Blouse	
Aspects	**Details**
Accession Number	G105
Title	Yellow Blouse
Colour	Bright Yellow
Texture	Smooth and crisp due to plain woven cotton rubia
Fibre Content	Cotton (Rubia – both main body and sleeves) 2-ply yarn
Warp	Cotton
Weft	Cotton
Number of Warps	44
Number of Wefts	44
Weave Type	Plain weave (1x1)
Twist	Wrap: Z-twist Weft: Z-twist

Fabric Type	Plain woven cotton rubia
Fasteners	Seven metal hooks with eye closures on the back with 22.5 cm long and 5 cm wide right-over-left placket with hand-sewn eye and hemming
Ornamentation/Embellishments/Decorative Elements/ Motifs	No visible motifs or embellishments 0.5 cm internal machine-stitched bias binding piping along the neckline

Table 4.3: Visual analysis of Blouse 3

Blouse 3: Off White Tanchoi Blouse	
Aspects	**Details**
Accession Number	G87
Title	Off White *Tanchoi* Blouse
Colour	Ivory, Golden, Off-White, Beige
Texture	Smooth and soft due to satin weave; slight stiffness from the cotton Rubia lining
Fibre Content	Main body: Silk (untwisted silk floss and circular silver thread) Lining: Cotton – Rubia (2-ply cotton filament)
Warp	Main Body: Untwisted Silk floss and circular silver thread Lining: Cotton filament
Weft	Main Body: Untwisted Silk floss and circular silver thread Lining: Cotton filament
Number of Warps	Main Body (Silk): 82

	Lining:43
Number of Wefts	Main Body (Silk): 26 Lining: 36

Weave Type	MainBody: Combination of Satin, Plain and Twill weave on Jacquard mechanism	Lining: Plain weave (1x1)
Twist	Main Body: Untwisted Floss	Lining: Wrap: Z-twist Weft: Z-twist
Fabric Type	Main Body: Silk	Lining: Cotton - Rubia

Fasteners	Seven metal hooks with eye closures on the back, arranged with a 24 cm long and 2.5 cm wide right placket. 24 cm long and 5 cm wide left placket with eye closure
Ornamentation/Embellishments/ Decorative Elements/Motifs	*Tanchoi* weaving with Paisley (kairi) motifs, floral vine patterns, creepers, and leaves in an all-over layout. 0.5 cm bias facing piping on the neckline with machine edge finishing

Table 4.4: Visual analysis of Blouse 4

Blouse 4: Red Blouse	
Aspects	**Details**
Accession Number	G103
Title	Red Blouse
Colour	Bright Red

Texture	Smooth and crisp due to cotton rubia weave structure
Fibre Content	Cotton (Rubia) - Cotton Filament (2-ply yarn)
Warp	Main Body: Cotton Sleeves**:** Cotton
Weft	Main Body: Cotton Sleeves: Cotton
Number of Warps	34
Number of Wefts	42
Weave Type	Plain Woven (1x1)
Twist	Wrap: Z-twist Weft: Z-twist
Fabric Type	Plain Woven Cotton Rubia
Fasteners	Seven metal hooks with eye closures (right-over-left placket) with hemming
Ornamentation/Embellishments/Decorative Elements/ Motifs	No visible motifs or embellishments; structural seams for a contoured fit

Table 4.5: Visual analysis of Blouse 5

Blouse 5: Blue Brocade Blouse	
Aspects	**Details**
Accession Number	G75
Title	Blue Brocade Blouse
Colour	Dark Eclipse Blue
Texture	Rough and slightly silky (Chiffon) and smooth (textured polyester & brocade border)

Fibre Content	• Main Body & Sleeves: Silk (Filament) • Brocade Border: Silk Filament and Golden *buttis* thread • Lining: Textured Polyester (Filament), Single Ply Yarn
Warp	Main Body: Silk Sleeves: Silk
Weft	Main Body: Chiffon Sleeves: Chiffon
Number of Warps	Main Body: 41 Lining: 31
Number of Wefts	Main Body: 43 Lining: 57
Weave Type	Plain Woven (1x1) with Extra Weft Brocade

Twist	Main Body: Wrap: Z-twist Weft: Z- twist	Brocade Border Wrap: Untwisted Weft: Untwisted	Lining: Wrap: Untwisted Multi filament Polyester Weft: Untwisted Multi filament Polyester

Fabric Type	Chiffon (Main body) and sleeves, Textured Polyester for lining
Fasteners	Missing (originally intended for hook and eye closures)
Ornamentation/Embellishments/Decorative Elements/Motifs	Brocade border with golden thread featuring intricate floral motifs (*paankinar*), including lotus or sunflower-like blooms with curling vines and detailed textured centers.

Blouse 6:Kapdi of Choudhary Community	
Aspects	**Details**
Accession Number	G112
Title	*Kapdi* of Choudhary Community
Colour	Orange base with yellow parallel stripes and black dots running vertically
Texture	Lustrous and smooth due to the satin weave, with slight puc*keri*ng caused by incorrect sewing tension
Fibre Content	Main Body: Silk floss (untwisted) and Cotton (Staple)
Warp	Main Body: Cotton yarns Sleeves (Silk Mashru): Cotton yarns
Weft	Main Body: Silk floss untwisted Sleeves :Silk floss untwisted
Number of Warps	31
Number of Wefts	54
Weave Type	Satin weave (5x1)
Twist	Silk: Untwisted Floss Cotton: Z-twist
Fabric Type	Mashru (Silk and Cotton blend)
Fasteners	Cloth ties (missing)
Ornamentation/Embellishments/Decorative Elements/Motifs	Linear pattern with yellow stripes and black dots. (*Danedar* Mashru) 0.5 cm piping on neckline, waistline, bust line, and sleeve edges

Blouse 7:Kapdu of Bharwad Community		
Aspects	**Details**	
Accession Number	114	
Title	*Kapdu* of Bharwaad Community	
Colour	Red and Green base with vibrant multicolour embroidery (red, green, yellow, pink, and white threads)	
Texture	Coarse, rough and uneven due to heavy cotton and hand-embroidered surface	
Fibre Content	Staple Cotton, Red Base and Green Base,	
Warp	Cotton yarns	
Weft	Cotton yarns	
Number of Warps	Red Base: 61 Green Base:54	
Number of Wefts	Red Base:55 Green Base:49	
Weave Type	Plain weave (1x1 structure)	
Twist	Red Base: Wrap: Z-twist Weft: Z-twist	Green Base Wrap: Z-twist Wefr: Z-twist
Fabric Type	Cotton- Cambric	
Fasteners	Cloth ties (located on the side for closure)	

Ornamentation/Embellishments/Decorative Elements/Motifs	*Kutchi* embroidery(*Aari* work and Chain stitch) and Sequence work (Plastic sequence) using cotton yans.Motifs like Paisley designs (particularly on the green sections) , Circular floral medallions (prominent on the red chest section) , Leaf motifs and vines, Birds and Geometric borders

Table 4.8: Visual analysis of Blouse 8

Blouse 8: White Lace Blouse	
Aspects	**Details**
Accession Number	G70
Title	White Lace Blouse
Colour	Off-white, Golden, Brown
Texture	Rough, lightweight, and airy with a delicate lace-like feel; slightly rough due to Embellishments
Fibre Content	Cotton, 2- ply yarn
Warp	**-**
Weft	**-**
Number of Warps	-
Number of Wefts	-
Weave Type	Hexagonal twisted mesh structure (Netting technique)
Twist	-

Fabric Type	Lace net fabric
Fasteners	Press button at the neckline
Ornamentation/Embellishments/ Decorative Elements	Gold trim braided with plastic sequins (using golden and brown threads), small black plastic stones scattered across the fabric

Table 4.9: Visual analysis of Blouse 9

Blouse 9: Pink Tanchoi Blouse	
Aspects	**Details**
Accession Number	G88
Title	Pink *Tanchoi* Blouse
Colour	Pastel pink, Magenta, Green, Yellow, White
Texture	Soft and smooth due to satin weave; slightly textured from polyester lining
Fibre Content	- Main body: Silk (Untwisted silk floss) - Sleeves: Silk (Untwisted silk floss) - Lining: Textured Polyester (Polyester Multi-ply Filament)
Warp	- Main Body (Silk): Untwisted Silk floss Sleeves (Silk): Untwisted Silk floss - Lining (Polyester): Polyester multi filament

Weft	- Main Body (Silk): Untwisted Silk floss - Sleeves (Silk): Untwisted Silk floss - Lining (Polyester): Polyester multi filament
Number of Warps	Main Fabric: 123 Lining: 46
Number of Wefts	Main Fabric: 84 Lining: 38
Weave Type	Main Fabric: Combination of Satin weave, Twill weave and Plain weave on Jacquard mechanism. Lining: Plain Woven (1x1)
Twist	Main Fabric: Untwisted Lining: Wrap: Multi filament untwisted polyester Weft: Multi filament untwisted polyeste
Fabric Type	Silk (main body and sleeves) Textured Polyester (lining)
Fasteners	Seven metal hooks with eye closures on a right-over-left placket (23.5 cm long and 2.5 cm wide)
Ornamentation/Embellishments/Decorative Elements/Motifs	*Tanchoi* weaving with paisley (kairi) motifs, floral vine patterns, creepers, and leaves in an all-over layout; 0.5 cm

	bias-facing piping on neckline with machine edge finishing.

Table 4.10: Visual analysis of Blouse 10

Blouse 10:Orange Blouse	
Aspects	**Details**
Accession Number	G104
Title	Orange Blouse
Colour	Bright Orange
Texture	Smooth and crisp due to plain woven cotton rubia
Fibre Content	Cotton filament (2-ply yarn)
Warp	Main Body: Cotton Sleeves: Cotton
Weft	Main Body: Cotton Sleeves: Cotton
Number of Warps	45
Number of Wefts	37
Weave Type	Plain woven (1x1)
Twist	Wrap: Z- twist Weft: Z-twist
Fabric Type	Cotton - Rubia (for both main body and sleeves)
Fasteners	Seven metal hooks with eye closures, right-over-left placket.

Ornamentation/Embellishments/Decorative Elements/Motifs	No visible motifs or embellishments; structural seams (*katori* cut, waist darts) enhance fit.

Blouse 11:Kapdi Mashru	
Aspects	**Details**
Accession Number	G12
Title	*Kapdi* Mashru
Colour	Green, Yellow, Red
Texture	Smooth with a slight sheen (due to satin weave), slightly rough in areas with hand stitching
Fibre Content	Silk Floss (untwisted) and Cotton (staple)
Warp	Main Body : Cotton yarns Sleeves (Silk Mashru): Cotton yarns
Weft	Main Body: Silk floss untwisted Sleeves :Silk floss untwisted
Number of Warps	75
Number of Wefts	42
Weave Type	Satin Weave (5x1) – Mashru
Twist	Wrap: Z- Twist Weft: Untwisted floss
Fabric Type	Mashru (Silk and Cotton Union)

Fasteners	Cloth ties made by twisting two yarns (traditional fastening method)
Ornamentation/Embellishments/Decorative Elements/Motifs	Floral and paisley-patterned trim in red and yellow tones, printed border, silver *gotta patti* border

Table 4.12: Visual analysis of Blouse 12

Blouse 12: Pink Kachali Blouse	
Aspects	**Details**
Accession Number	G10
Title	Pink *Asavali* Blouse
Colour	Vibrant pink (main body and sleeves), Mint green (bust panels), Golden, Brown
Texture	Smooth and lustrous due to silk floss; intricate texture from brocade patterns
Fibre Content	Silk floss (untwisted), Golden *buttis* threads
Warp	Main Body: Silk floss untwisted Sleeves (Silk)Silk floss untwisted
Weft	Main Body: Silk floss untwisted Sleeves :Silk floss untwisted
Number of Warps	Main Body (Pink): 56 Main Body (Mint Green): 59
Number of Wefts	Main Body (Cotton): 60 Main Body (Mint Green): 62

Weave Type	Plain woven (1x1), Extra weft technique
Twist	Untwisted
Fabric Type	Silk with *buttis* (Brocade)
Fasteners	Cloth ties (1 cm wide) at the halter neck and back with piping
Ornamentation/Embellishments/Decorative Elements/Motifs	Extra weft technique, scattered *buttis* (paisley/floral motifs) in gold *buttis*, brocade borders with geometric and floral patterns, *paan kinnar* border

Table 4.13: Visual analysis of Blouse 13

Blouse 13: Green Kachali Blouse	
Aspects	**Details**
Accession Number	G9
Title	Green *Asavali* Blouse
Colour	Mint green (field and sleeves), vibrant pink (bust panel), gold and brown (ornamentation)
Texture	Smooth and lustrous with a slight sheen from the silk and *buttis* and golden threads.
Fibre Content	Silk floss (main body and sleeves), golden *buttis* threads (ornamentation)
Warp	Main Body: Silk floss untwisted Sleeves: Silk floss untwisted
Weft	Main Body: Silk floss untwisted Sleeves :Silk floss untwisted

Number of Warps	Main Body (Pink): 66
	Main Body (Mint Green): 59
Number of Wefts	Main Body (Pink): 53
	Main Body (Mint Green): 64
Weave Type	Plain weave (1x1) with extra weft technique for ornamentation
Twist	Untwisted
Fabric Type	Silk
Fasteners	Cloth tie strings (1 cm wide) at the back of the neck and lower back with piping.
Ornamentation/Embellishments/ Decorative Elements	Gold *buttis buttis* scattered across the mint green field. Elaborate brocade border on sleeves featuring geometric and floral designs - Distinctive *paan* (betel leaf) and *chowkda* (checkered) patterns in the sleeve border

4.2.4 Manual Measurements

Accurate manual measurements were taken using a measuring tape, following the standard metric system. Dimensions such as bust, waist, length, darts, neckline, armhole, and sleeve measurements were recorded.

These measurements were carefully documented through pencil sketches, representing both the front and back panels, to serve as a reference for future use in digital documentation and pattern development. To ensure a neutral background for accurate observation and to maintain garment cleanliness, a muslin cloth was placed beneath each blouse during the examination process.

Plate 4.15: Measurement of the Blouse

Table 4.14: Measurements of Blouse 1

Blouse 1	
Aspects	**Measurements (cm)**
Chest (Round)	73 cm
Waist (Round)	57.5 cm
Sleeve Length	30 cm
Sleeve Girth	21.5 cm
Shoulder Width	31.5 cm
Full Length	34.5 cm

Armhole Depth (Girth)	35 cm
Bicep Level (Girth)	24.5 cm
Waist Darts (Front)	Length - 12 cm, Width - 2 cm
Center Front Dart (Front)	-
Back Dart	Length - 13 cm, Width - 2 cm
Side Seam Darts (Front)	Length - 8.5 cm, Width - 2 cm
Armhole Dart (Front)	-
Bask (Front)	-
Length at Center Front	-
Breadth	-
Length under the Bust	-
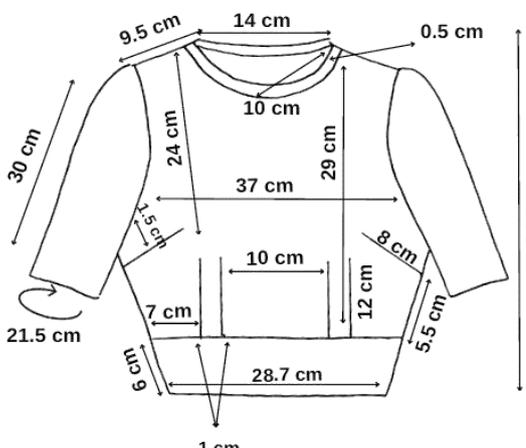
Illustration 4.1(a): Blouse 1 Front   **Illustration 4.1(b): Blouse 1 Back**

Table 4.15: Measurements of Blouse 2

Blouse 2	
Aspects	**Measurements (cm)**

Chest (Round)	85.5
Waist (Round)	70
Sleeve Length	20
Sleeve Girth	28
Shoulder Width	36.5
Full Length	37
Armhole Depth (Girth)	36
Bicep Level (Girth)	35
Waist Dart (Front)	Length – 7.5, Width – 4
Center Front Dart (Front)	Length – 6, Width – 1
Side Seam Dart (Front)	Length – 12, Width – 1
Armhole Dart (Front)	Length – 8, Width – 2
Back Dart	Length – 15, Width – 4
Bask (Front)	
Length	18
Length at center front	11
Breadth	8.5
Length under the bust	19

Illustration 4.2(a): Blouse 2 Front

Illustration 4.2(b): Blouse 2 Back
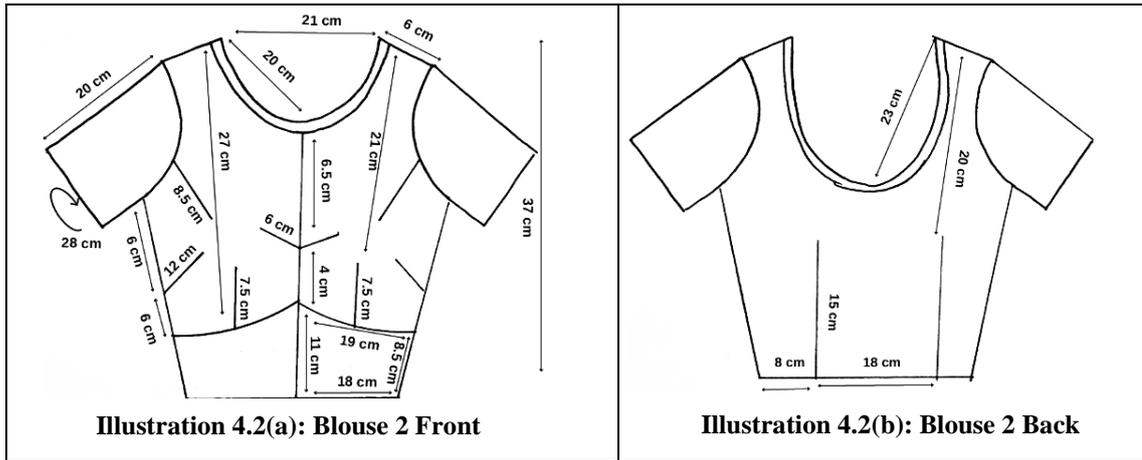
Table 4.16: Measurements of Blouse 3

Blouse 3	
Aspects	**Measurements (cm)**
Chest (Round)	91.5
Waist (Round)	74
Sleeve Length	38
Sleeve Girth	29.7
Shoulder Width	39
Full Length	45
Armhole Depth (Girth)	36
Bicep Level (Girth)	37
Center Front Bust Dart (Front)	Length – 6, Width – 2
Waist Darts (Front)	Length – 9.5, Width – 2
Armhole Dart (Front)	Length – 8, Width – 1
Back Dart	Length – 17, Width – 5
Side Seam Darts (Front)	Length – 16.5, Width – 2

Bask (Front)	
Length	23.5
Breadth	7
Length at Center Front	8.5
Length under Bust	25
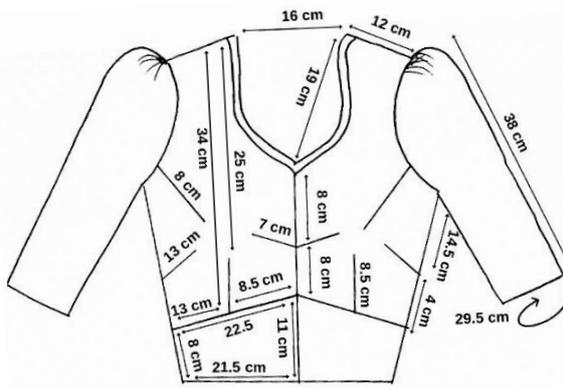
Illustration 4.3(a): Blouse 3 Front	**Illustration 4.3(b): Blouse 3 Back**

Table 4.17: Measurements of Blouse 4

Blouse 4	
Aspects	**Measurements (cm)**
Chest (Round)	89.5
Waist (Round)	80
Sleeve Length	21
Sleeve Girth	30
Shoulder Width	37
Full Length	45
Armhole Depth (Girth)	41

Bicep Level (Girth)	37
Waist Darts (Front)	Length – 19.5, Width – 4
Center Front Dart (Front)	Length – 6.5, Width – 1
Side Seam Darts (Front)	Length – 14.5, Width – 1
Armhole Dart (Front)	Length – 11, Width – 2
Back Dart	Length – 22, Width – 4
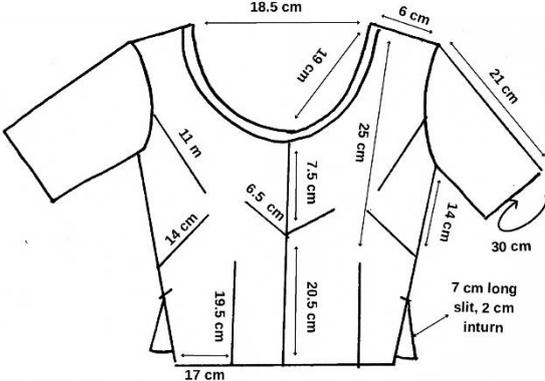
Illustration 4.4(a): Blouse 4 Front
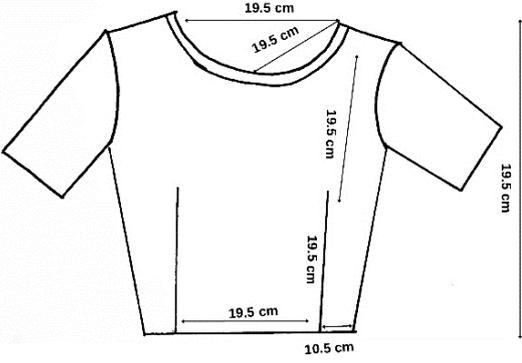
Illustration 4.4(b): Blouse 4 Back

Table 4.18: Measurements of Blouse 5

Blouse 5	
Aspects	**Measurements (cm)**
Chest (Round)	78
Waist (Round)	66
Sleeve Length	21.5
Sleeve Girth	25
Shoulder Width	30
Full Length	34

Armhole Depth (Girth)	20.5
Bicep Level (Girth)	29.5
Waist Darts (Front)	Length – 11, Width – 3
Back Dart	Length – 12, Width – 3
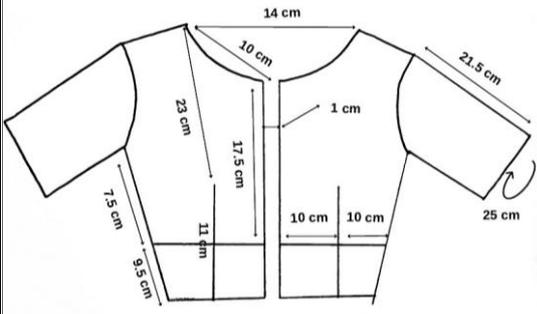
Illustration 4.5 (a): Blouse 5 Front	**Illustration 4.5 (b): Blouse 5 Back**

Table 4.19: Measurements of Blouse 6

Blouse 6	
Aspects	**Measurements (cm)**
Sleeve Length	24
Sleeve Girth	27
Full Length	30
Bicep Level Girth	16
Shoulder Width	23
Gusset (Single Piece)	
Width	9
(Side A)	14
(Side B)	16.5

Side Panel (Singe piece)	
(Length A)	14.5
(Length B)	18
(Width A)	16
(Width B)	13
Bask (Front) Single Piece	
Length	12
Length at Center Front	9
Breadth	9.5
Length Under the Bust	14
Katori (Single piece)	
Width	8.5
Length A	14
Length B	12.5
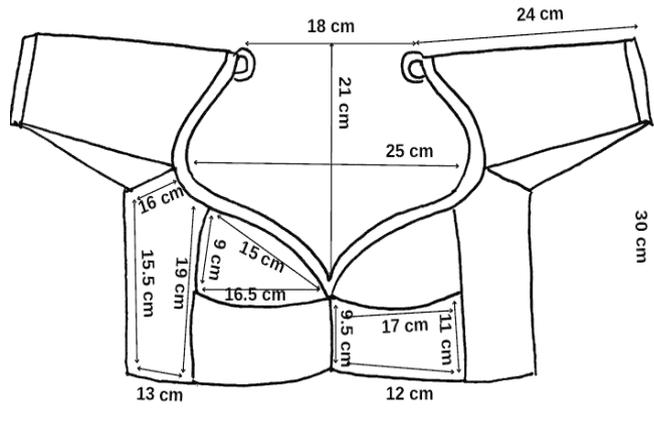
Illustration 4.6 (a): Blouse 6 Front
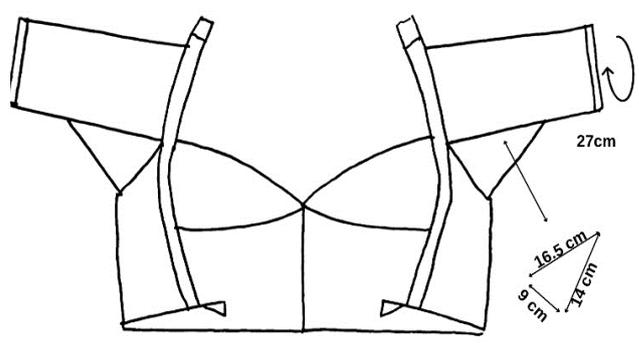
Illustration 4.6 (b): Blouse 6 Back

Table 4.20: Measurements of Blouse 7

Blouse 7	
Aspects	**Measurements (cm)**
Sleeve length	41
Sleeve girth	26
Full Length	43
Chest Round	89
Waist Round	66.5
Shoulder	40

Gusset (Single piece)	
Width	10.5
Side A	18.5
Side B	15
Side Panel A (Single piece)	
Length A	20.5
Length B	19.5
Width A	20
Width B	12.5
Bask (Front) Single Piece	
Length	15
Length at center Front	17
Breadth	12.5
Length under the bust	19.5
Katori (Single piece)	
Length A	20
Length B	12.5
Length C	20.5
Length D	19.5
Triangle patch (Neck)	
Side A	12
Side B	17

Side C	10.5
Side Panel B (Single piece)	
Length	28
Width	3
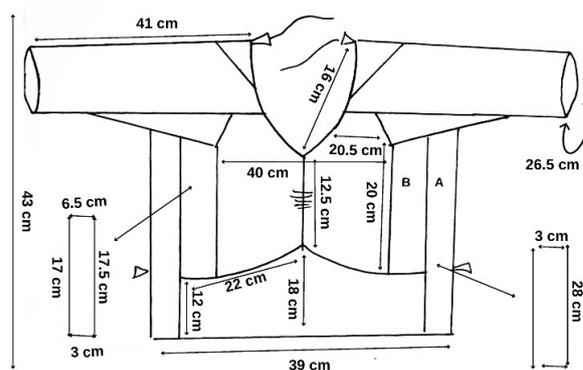
Illustration 4.7 (a): Blouse 7 Front
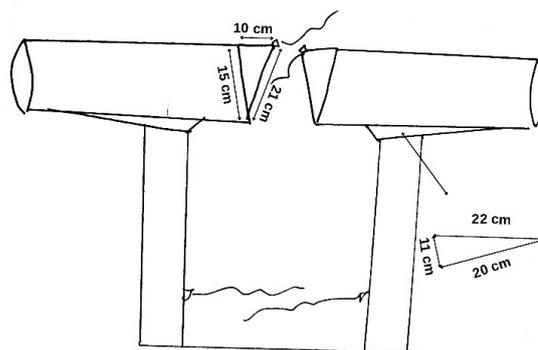
Illustration 4.7 (b): Blouse 7 Back

Table 4.21: Measurements of Blouse 8

Blouse 8	
Aspects	**Measurements (cm)**
Sleeve Length	39
Sleeve Girth	26.5

Full Length	32
Bicep Level Girth	12
Shoulder	28
Chest Round	66
Waist Round	58
Armhole Depth	29
Bagal (Single Piece)	
Side A	7.5
Side B	7.5
Side C	7.5
Side D	7.5
Kali (Single Piece)	
Length A	19.5
Length B	19.5
Width A	5
Width B	10
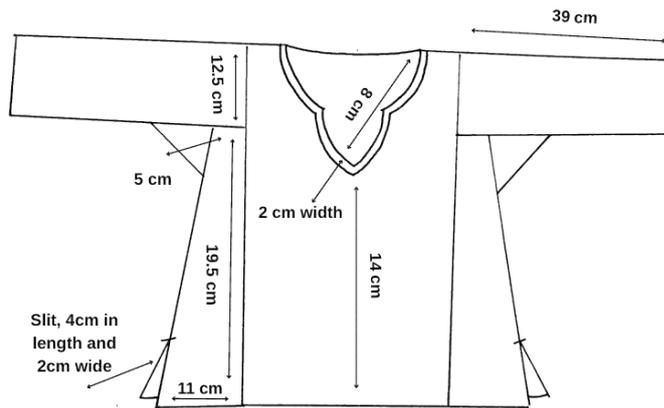
Illustration 4.8 (a): Blouse 8 Front

39 cm

12.5 cm

8 cm

5 cm

2 cm width

14 cm

19.5 cm

Slit, 4cm in length and 2cm wide

11 cm
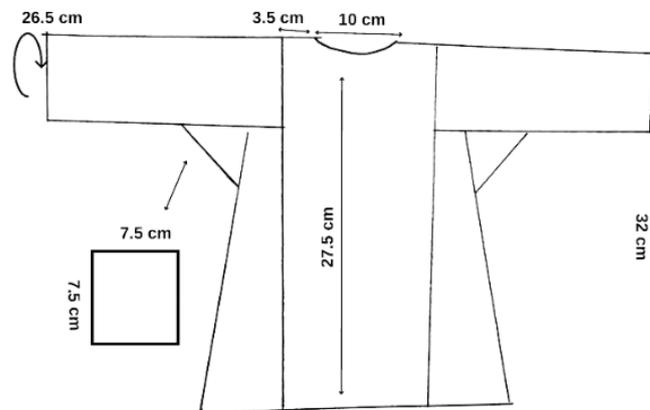
Illustration 4.8 (b): Blouse 8 Back

26.5 cm

3.5 cm

10 cm

7.5 cm

7.5 cm

27.5 cm

32 cm

Table 4.22: Measurements of Blouse 9

Blouse 9	
Aspects	**Measurements (cm)**
Chest (Round)	89.5
Waist (Round)	71
Sleeve Length	39
Sleeve Girth	27
Shoulder Width	40
Full Length	40

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Armhole Depth (Girth)	40
Bicep Level (Girth)	36
Center Front Bust Dart	Length – 6.5, Width – 1
Waist Darts (Front)	Length – 5, Width – 2.5
Armhole Dart (Front)	Length – 9.5, Width – 1
Back Dart	Length – 14, Width – 2
Side Seam Darts (Front)	Length – 12, Width – 2
Bask (Length)	21
Bask (Breadth)	7
Bask (Length at Center Front)	8
Bask (Length under Bust)	22

Illustration 4.9 (a): Blouse 9 Front

Illustration 4.9 (b): Blouse 9 Back

Blouse 10	
Aspects	**Measurements (cm)**
Chest (Round)	89
Waist (Round)	71
Sleeve Length	22
Sleeve Girth	30
Shoulder Width	31.5
Full Length	37.5
Armhole Depth (Girth)	40
Bicep Level (Girth)	32
Waist Darts (Front)	Length - 8, Width – 2
Back Dart	Length - 15, Width – 4
Bask (Front) - Length	19
Bask (Front) - Length at Center Front	9.5
Bask (Front) - Breadth	7
Bask (Front) - Length Under the Bust	20
Katori Cut Length	19.5
Right Placket	Length - 22.5, Width - 2.5
Left Placket (with eye)	Length - 22.5, Width – 5
Internal Allowance (Back)	2 cm
Internal Allowance (Sleeve End)	2 cm

Illustration 4.10 (a): Blouse 10 Front

Illustration 4.10 (b): Blouse 10 Back
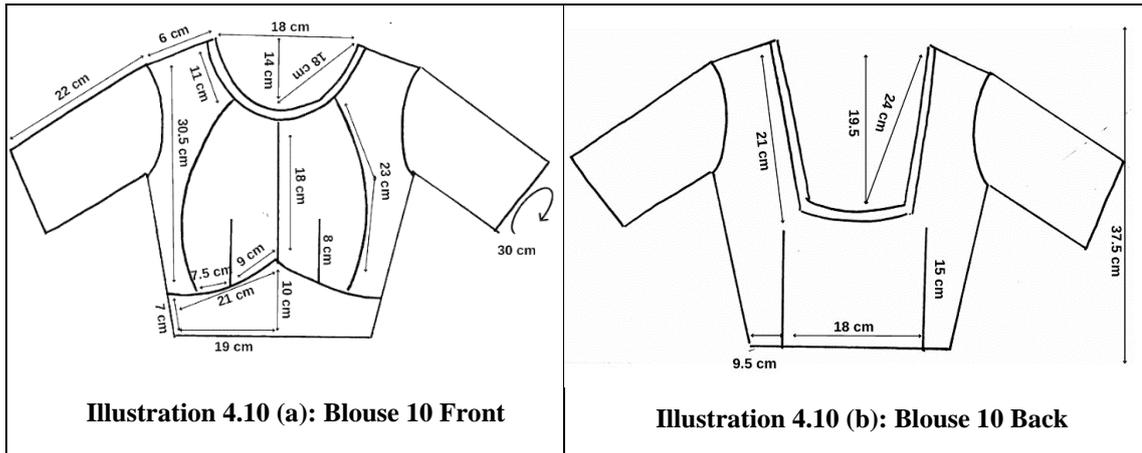
Table 4.24: Measurements of Blouse 11

Blouse 11	
Aspects	**Measurements (cm)**
Sleeve Length	19
Sleeve Girth	27
Full Length	23
Shoulder	18
Panel A (Single piece)	
Side A	18
Side B	17
Side C	8
Side D	8
Panel B (Single piece)	
Side A	9
Side B	8
Side C	8

Panel C (Single piece)	
Side A	20.5
Side B	27
Side C	27
Side D	14.5
Panel D (Single piece)	
Side A	12.5
Side B	22
Side C	15
Side D	17
Panel E (Single piece)	
Side A	11
Side B	10
Side C	6
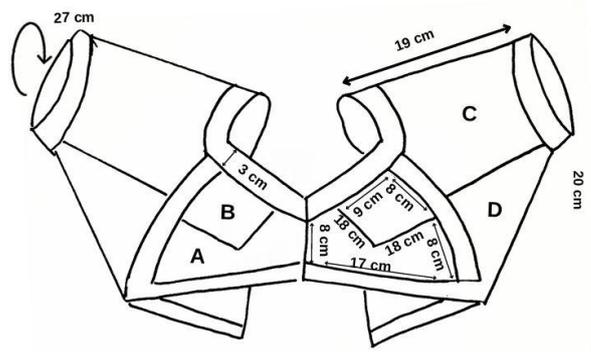
Illustration 4.11 (a): Blouse 11 Front

Illustration 4.11 (b) Blouse 11 Back
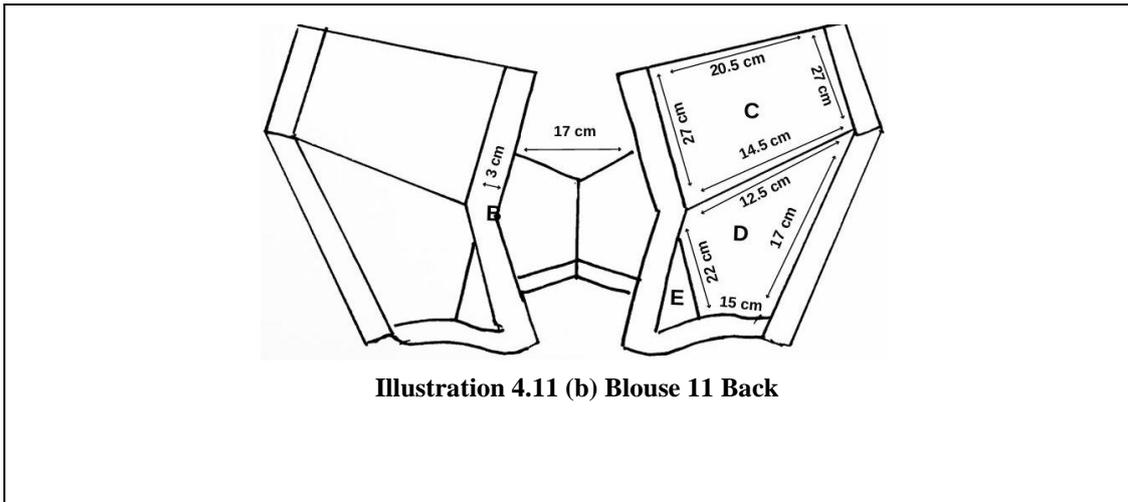
Table 4.25: Measurements of Blouse 12

Blouse 12	
Aspects	**Measurements (cm)**
Sleeve Length	38.5
Sleeve Girth	26
Full Length	25
Gusset (Single piece)	
Width	9
Gusset Side A	18
Gusset Side B	14.5
Bust Panel A (Single piece Front)	
Length A	13
Length B	10
Width A	11
Width B	9

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Lower bust Panel B (Single piece Front)	
Length A	12
Length B	10
Breadth A	8
Breadth B	10.5
Lower bust Panel C (Single piece Front)	
Length A	9
Length B	8
Width A	8
Width B	8
Darts (Front)	
Length (Front)	4
Width (Front)	3
Panel D (Single piece Back)	
Length A	15.5
Length B	17
Width A	10
Width B	11

Illustration 4.12 (a): Blouse 12 Front

Illustration 4.12 (b): Blouse 12 Back
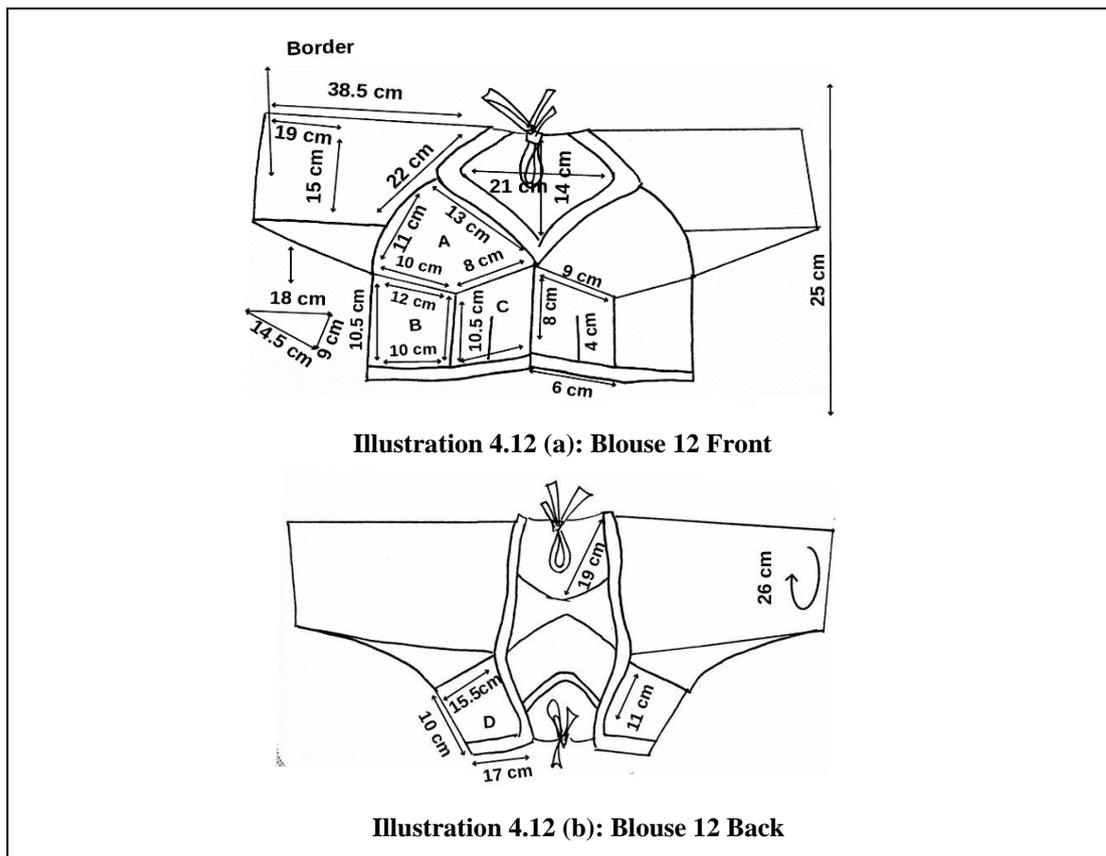
Table 4.26: Measurements of Blouse 13

Blouse 13	
Aspects	**Measurements (cm)**
Sleeve Length	38.5
Sleeve Girth	26
Full Length	25
Gusset (Single piece)	
Width	10
Side A	20
Side B	17
Bust Panel A (Single piece Front)	

Length A	12.5
Length B	13
Length C	18
Panel B (Single piece Front)	
Length A	9
Length B	7
Breadth A	10
Breadth B	7
Panel C (Single piece Front)	
Length A	11
Length B	7
Width A	10
Width B	7
Pleats (Front)	3 pleats (1.5 cm apart)
Panel D (Single piece Back)	
Length A	15
Length B	14
Width A	15
Width B	13

Illustration 4.13 (a): Blouse 13 Front

Illustration 4.13 (b): Blouse 13 Back
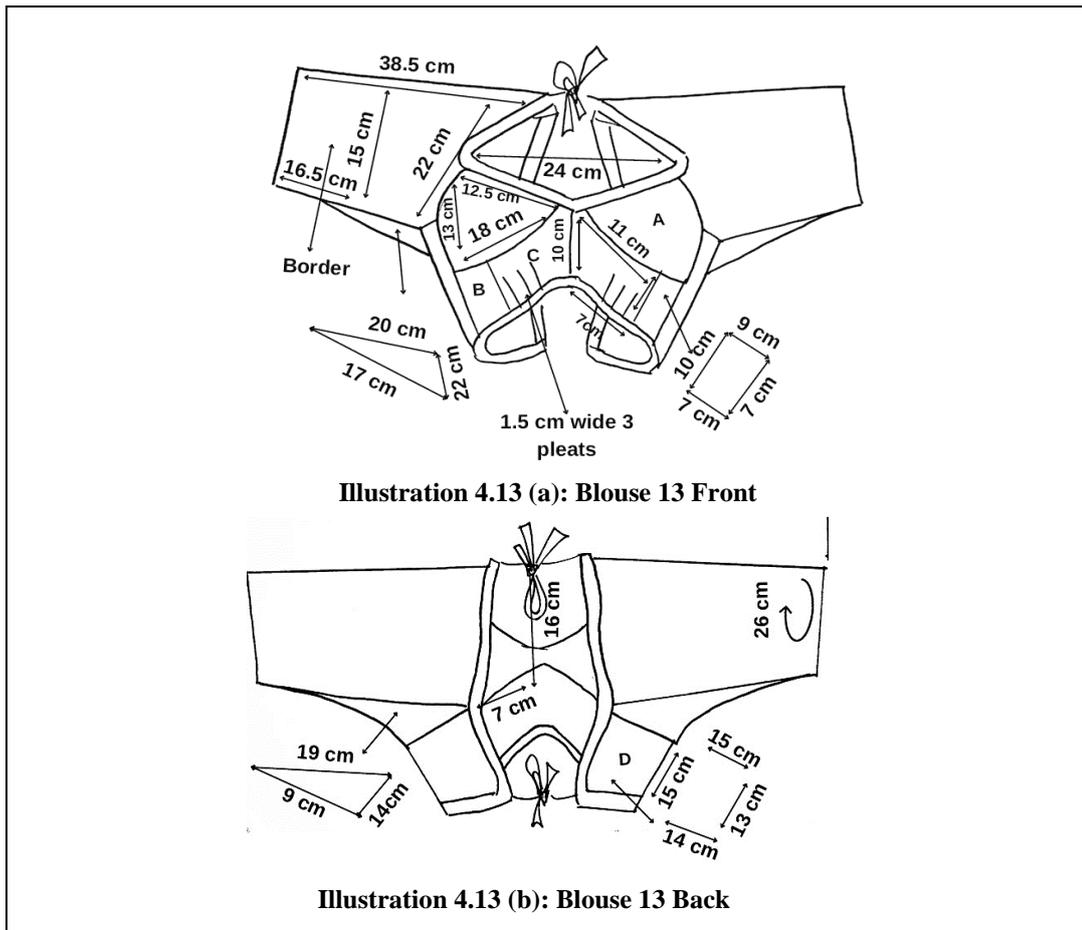
4.3 Development of Digital Patterns using Drafting Instructions

The digital pattern-making process involved using Richpeace software to translate physical garment dimensions into precise, reusable patterns while preserving the original silhouettes and construction methods. Accurate measurements (e.g., bust, waist, length) were taken manually to guide the digital drafting, following step-by-step instructions adapted from the *Zarapkar System of Cutting* with adjustments for modern body dimensions. This process documented essential garment components like the bodice, sleeves, and panels, ensuring comprehensive preservation and facilitating future replication. This strategic approach not only safeguarded the construction nuances of traditional blouses but also integrated adaptations into other blouse variants analysed in the study. The questionnaire survey revealed that digital pattern-making is rarely practiced in museums, making this method an innovative addition to garment preservation. Compared to manual drafting, digital tools offer a faster, more efficient, and accurate alternative, allowing for quick modifications and reducing the physical handling of fragile artefacts.

Digital sharing further enhances this process by enabling patterns to be accessed and modified from anywhere in the world, provided the user has the required software. This facilitates global collaboration, ensures sustainable archiving, and supports the preservation of intangible heritage, such as traditional blouse-making techniques. By adopting digital pattern-making, museums bridge the gap between heritage and technology, promoting innovation while maintaining historical authenticity.

4.3.1 Digital pattern creation using step by step drafting instructions

This section provided detailed drafting instructions based primarily on the Zarapkar System of Cutting, with necessary modifications. Utilizing specialized pattern-making software, physical garment measurements were precisely converted into digital patterns, ensuring accuracy in alignment, construction, and adherence to traditional methodologies.

The constituent features of the blouse were carefully identified, leading to modifications in basic patterns concerning size, neckline variations, dart placement, and construction details. Essential components, including the bodice, sleeves, and panels, were systematically documented to facilitate the authentic recreation of these garments.

This exercise was particularly useful in developing digital patterns, preserving traditional garment-making techniques while adapting them to contemporary body dimensions. The finalized drafting instructions and digital patterns serve as a valuable resource for scholars, designers, and textile enthusiasts, ensuring accessibility and continuity of these heritage techniques for future generations.

Blouse 1: Plain Blouse with Mashru Sleeves
Instructions for drafting:
FRONT:
- Square lines from 0, on a four-layer fold, with folds at 2-0 and 5-0.
- 1-0 = one-eighth chest plus 6.5 cm (2½").
- 2-0 = full length.
- 3-0 = one-twelfth chest plus 1 cm (¼") or to taste.
- 4-0 = one-eighth chest or to taste.
- Shape neck 4-3.

- 5-0 = shoulder plus 1 cm (¼").
- Square down from 5 to 6.
- 7-5 = 2 cm (¾"). Join 3-7.
- 8-6 = 2.5 cm (1").
- 9-1 = one-fourth chest plus 4 cm (1½").
- Shape scye 7-8-9.
- Square down from 9 to 10.
- 11-10 = 2 cm (¾"). Join 9-11.
- 12-11 = 1.5 cm (½").
- 13-2 = 2 cm (¾").
- Shape bottom 13-12.
- 14-13 = one-twelfth chest plus 1 cm (¼").
- 15-9 and 16-1 = 5 cm (2") each.

DARTS:

- Take 3 cm (1¼") dart at 14,
- 1.5 cm (½") dart at 15 and 1 cm (¼") dart at 16 as shown.

BACK:

- 17-0 = 6.5 cm (2½") or to taste.
- Shape neck 17-3.
- Shape scye 7-18-9.
- Take 1.5 cm (½") dart at 14 on line 11-2.
- Keep 2 cm (¾") outside 11-9 (of back) and 12-9 (of front) for inlays.

PLAIN SLEEVE:

- Square lines from 0, fold at 2-0.
- = one-eighth chest plus 6.5 cm (2½").
- 2-0 = sleeve length plus 1 cm (¼").
- 8-4 = 5 cm (2") for ladies and 4 cm (1½") for girls' garments.
  Join 8-5. Taking 1 cm (¼") above point 4, shape front-side 4-8.
- 3-2 = same as 1 to 0. Join 3-1.
- 4-1 = one-eighth chest.
- 5-0 = 2.5 cm (1"). Join 4-5.
- 6 is midway 4 to 5.

- 7-6 = 2 cm (¾").

- Shape back-side 4-7-5-0 as shown.

- Square up from 4 to 8.

- 9-0 as shown.

- 10-2 = half sleeve round plus 1.5 cm (½").

- Join and shape 4-10.

- Keep 3 cm (1¼") inturns at 10-2.

- Keep 2 cm (¾") inlays at 10-4.

Scale: 1/4th cm scale

Illustration 4.14: Drafting of Front, Back and Sleeve of Blouse 1

Blouse 2: Yellow Blouse

Instructions for drafting:

BACK:

- Square lines from 0, fold at 2-0.

- 1-0= one-eighth chest plus 5 cm (2").

- 2-0= full length less 1.5 cm (½").

- Square out from 1 and 2.

- 3-0= one-eighth chest or to taste.

- 4-0= one-twelfth chest or to taste.

- Shape neck 4-3.

- 5-0 = shoulder plus 1 cm (¼").

- Square down from 5 to 6.

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- 7-5 = 1.5 cm (½"). Join 3-7.

- 8-1 = one-fourth chest.

- Shape scye 7-8.

- Square down from 8 to 9.

- 10-9 = 2 cm (¾"). Join 8-10.

- 11-2 = one-twelfth chest plus 1.5 cm (½").

- Square up from 11 to 12.

- 12 is 4 cm (1½") below the chest line 1-8.

- Take 2 cm (¾") dart at 11-12.

- For back opening, if required take point 20 on line 13-14.

- 21-18 = same as 5 to 0 of back.

- Square down from 21 to 22.

- 23-21 = 1.5 cm (½"). Join 19-23.

- 24-22 = nearly 2.5 cm (1").

- Shape scye 23-24-16.

- 25-17 and 26-15 = 4 cm (1½") each. Join 26-25.

FRONT:

- Draw line 13-14-15 and produce the lines of back as shown.

- 16-14 = one-fourth chest plus 4 cm (1½").

- Square down from 16 to 17.

- 18-13 = 1.5 cm (½").

- Shape 18-14 as shown.

- 19-18 = same as 3 to 0 of back.

- 20-18 = one-eighth chest or to taste. Shape neck 20-19.

- For back opening, if required take point 20 on line 13-14.

- 21-18 = same as 5 to 0 of back.

- Square down from 21 to 22.

- 23-21 = 1.5 cm (½"). Join 19-23.

- 24-22 = nearly 2.5 cm (1").

- Shape scye 23-24-16.

- 25-17 and 26-15 = 4 cm (1½") each. Join 26-25.

DARTS:

- 27-14 = one-twelfth chest plus 2 cm (¾").
- 28-29 is squared down from 27.
- 28-27 = one-eighth chest less 4 cm (1½") or bust length from shoulder at 19 plus 1.5 cm (½").
- Take 4 cm (1½") dart at 29. For more prominent bust, suppress more cloth in this dart.
- 30-14 = same as 28 to 27.
- Take 1.5 to 2 cm (½ to ¾") dart at 30.
- 31-16 = one-eighth chest or 1.5 cm (½") more.
- 32-31 = 1.5 cm (½").
- 33-31 = 1.5 cm (½") from 31 and 1 cm (¼") inside line 16-17.
- Take dart 33-28-32 as shown.
- 34-26 = one-fourth waist plus 1.5 cm (½") + dart width at 29. Join 33-34.
- If required, take a dart at 24.

BASK:

- Square lines from 24.
- 25-24 = one-fourth waist plus width at 1.5 cm (½").
- 26-24 = 7.5 cm (3").
- 27-25 = 5 cm (2").
- Shape 26-27.
- Keep 2 to 2.5 cm (¾ to 1") outside 10-12 and 27-25 for inlays.

PLAIN SLEEVE:

- Square lines from 0, fold at 2
- 1-0. = one-eighth chest plus 6.5 cm (2½").
- 2-0 = sleeve length plus 1 cm (¼").
- 8-4 = 5 cm (2") for ladies and 4 cm (1½") for girls' garments.
- Join 8-5. Taking 1 cm (¼") above point 4, shape front-side 4-8.
- 3-2 = same as 1 to 0. Join 3-1.
- 4-1 = one-eighth chest.
- 5-0 = 2.5 cm (1"). Join 4-5.
- 6 is midway 4 to 5.

- 7-6 = 2 cm (¾").
- Shape back-side 4-7-5-0 as shown.
- Square up from 4 to 8.
- 9-0 as shown.
- 10-2 = half sleeve round plus 1.5 cm (½").
- Join and shape 4-10.

Illustration 4.15: Drafting of Front, Back and Sleeve of Blouse 2

Blouse 3: Off White Tanchoi

Instructions for drafting:

BACK:

- Square lines from 0, fold at 2-0.
- 1-0 = one-eighth chest plus 5 cm (2").
- 2-0 = full length less 1.5 cm (½").
- Square out from 1 and 2.
- 3-0 = one-eighth chest or to taste.
- 4-0 = one-twelfth chest or to taste.
- Shape neck 4-3.
- 5-0 = shoulder plus 1 cm (¼").
- Square down from 5 to 6.
- 7-5 = 1.5 cm (½"). Join 3-7.
- 8-1 = one-fourth chest.
- Shape scye 7-8.

- Square down from 8 to 9.

- 10-9 = 2 cm (¾"). Join 8-10.

- 11-2 = one-twelfth chest plus 1.5 cm (½").

- Square up from 11 to 12.

- 12 is 4 cm (1½") below the chest line 1-8.

- Take 2 cm (¾") dart at 11-12.

FRONT:

- Draw line 13-14-15 and produce the lines of back as shown.

- 16-14 = one-fourth chest plus 4 cm (1½").

- Square down from 16 to 17.

- 18-13 = 1.5 cm (½").

- Shape 18-14 as shown.

- 19-18 = same as 3 to 0 of back.

- 20-18 = one-eighth chest or to taste. Shape neck 20-19.

- For back opening, if required take point 20 on line 13-14.

- 21-18 = same as 5 to 0 of back.

- Square down from 21 to 22.

- 23-21 = 1.5 cm (½"). Join 19-23.

- 24-22 = nearly 2.5 cm (1").

- Shape scye 23-24-16.

- 25-17 and 26-15 = 4 cm (1½") each. Join 26-25.

DARTS:

- 27-14 = one-twelfth chest plus 2 cm (¾").

- 28-29 is squared down from 27.

- 28-27 = one-eighth chest less 4 cm (1½") or bust length from shoulder at 19 plus 1.5 cm (½").

- Take 4 cm (1½") dart at 29. For more prominent bust, suppress more cloth in this dart.

- 30-14 = same as 28 to 27.

- Take 1.5 to 2 cm (½ to ¾") dart at 30.

- 31-16 = one-eighth chest or 1.5 cm (½") more.

- 32-31 = 1.5 cm (½").

- 33-31 = 1.5 cm (½") from 31 and 1 cm (¼") inside line 16-17.
- Take dart 33-28-32 as shown.
- 34-26 = one-fourth waist plus 1.5 cm (½") + dart width at 29. Join 33-34. If required, take a dart at 24.
- Keep 2 to 2.5 cm (¾ to 1") inlays outside 8-10 and 16-34.

BASK:

- Square lines from 24.
- 25-24 = one-fourth waist plus width at 1.5 cm (½").
- 26-24 = 7.5 cm (3").
- 27-25 = 5 cm (2").
- Shape 26-27.
- Keep 2 to 2.5 cm (¾ to 1") outside 10-12 and 27-25 for inlays.

SLEEVE WITH FULLNESS AT THE SHOULDER

- Square lines from 0,
- one-eighth chest plus 1.5 cm (½"), as usual.
- X-0 = 4 to 5 cm (1½" to 2") or to taste.
- 2-0 = sleeve length plus 1.5 cm (½") for seams, plus 5 cm (1½" to 2") for gathers.
- Shape 4-7-5-0 and 4-8-9-0 as usual (see page 46).
- 10-2 = half sleeve round plus 1.5 cm (½").
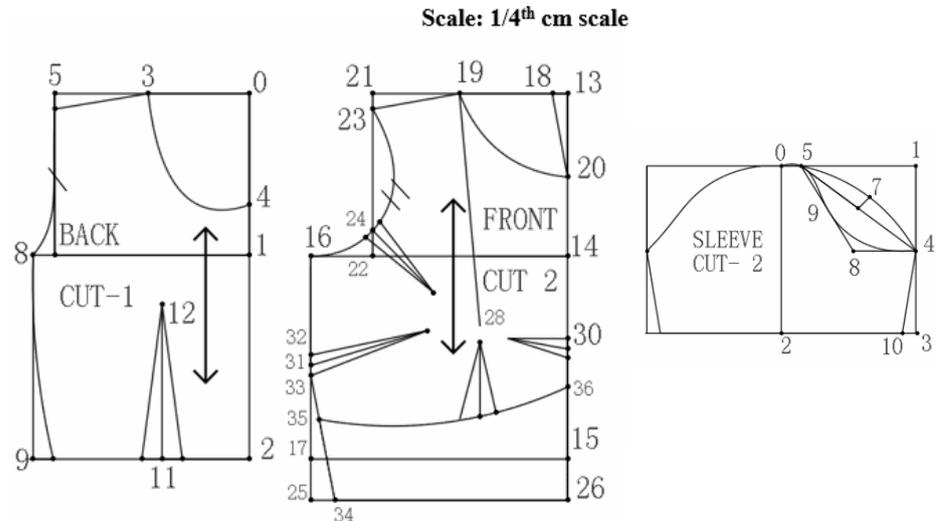- Shape 11-2.
- Keep 2 cm (¾") inlays at 11.4.

Illustration 4.16: Drafting of Front, Back and Sleeve of Blouse 3

Blouse 4: Red Blouse

Instructions for drafting

BACK:

- Square lines from 0, fold at 2-0.
- 1-0 = one-eighth chest plus 5 cm (2").
- 2-0 = full length less 1.5 cm (½").
- Square out from 1 and 2.
- 3-0 = one-eighth chest or to taste.
- 4-0 = one-twelfth chest or to taste.
- Shape neck 4-3.
- 5-0 = shoulder plus 1 cm (¼").
- Square down from 5 to 6.
- 7-5 = 1.5 cm (½"). Join 3-7.
- 8-1 = one-fourth chest.
- Shape scye 7-8.
- Square down from 8 to 9.
- 10-9 = 2 cm (¾"). Join 8-10.
- 11-2 = one-twelfth chest plus 1.5 cm (½").
- Square up from 11 to 12.
- 12 is 4 cm (1½") below the chest line 1-8.
- Take 2 cm (¾") dart at 11-12.

FRONT:

- Draw line 13-14-15 and produce the lines of back as shown.
- 16-14 = one-fourth chest plus 4 cm (1½").
- Square down from 16 to 17.
- 18-13 = 1.5 cm (½").
- Shape 18-14 as shown.
- 19-18 = same as 3 to 0 of back.
- 20-18 = one-eighth chest or to taste. Shape neck 20-19.
- For back opening, if required take point 20 on line 13-14.
- 21-18 = same as 5 to 0 of back.
- Square down from 21 to 22.

- 23-21 = 1.5 cm (½"). Join 19-23.
- 24-22 = nearly 2.5 cm (1").
- Shape scye 23-24-16.
- 25-17 and 26-15 = 4 cm (1½") each. Join 26-25.

DARTS:
- 27-14 = one-twelfth chest plus 2 cm (¾").
- 28-29 is squared down from 27.
- 28-27 = one-eighth chest less 4 cm (1½") or bust length from shoulder at 19 plus 1.5 cm (½").
- Take 4 cm (1½") dart at 29. For more prominent bust, suppress more cloth in this dart.
- 30-14 = same as 28 to 27.
- Take 1.5 to 2 cm (½ to ¾") dart at 30.
- 31-16 = one-eighth chest or 1.5 cm (½") more.
- 32-31 = 1.5 cm (½").
- 33-31 = 1.5 cm (½") from 31 and 1 cm (¼") inside line 16-17.
- Take dart 33-28-32 as shown.
- 34-26 = one-fourth waist plus 1.5 cm (½") + dart width at 29. Join 33-34.

PLAIN SLEEVE:
- Square lines from 0, fold at 2-0.
- 1-0= one-eighth chest plus 6.5 cm (2½").
- 2-0 = sleeve length plus 1 cm (¼").
- 8-4 = 5 cm (2") for ladies and 4 cm (1½") for girls' garments.
  Join 8-5. Taking 1 cm (¼") above point 4, shape front-side 4-8.
- 3-2 = same as 1 to 0. Join 3-1.
- 4-1 = one-eighth chest.
- 5-0 = 2.5 cm (1"). Join 4-5.6 is midway 4 to 5.
- 7-6 = 2 cm (¾").
- Shape back-side 4-7-5-0 as shown.
- Square up from 4 to 8.
- 9-0 as shown.
- 10-2 = half sleeve round plus 1.5 cm (½").

- Join and shape 4-10.
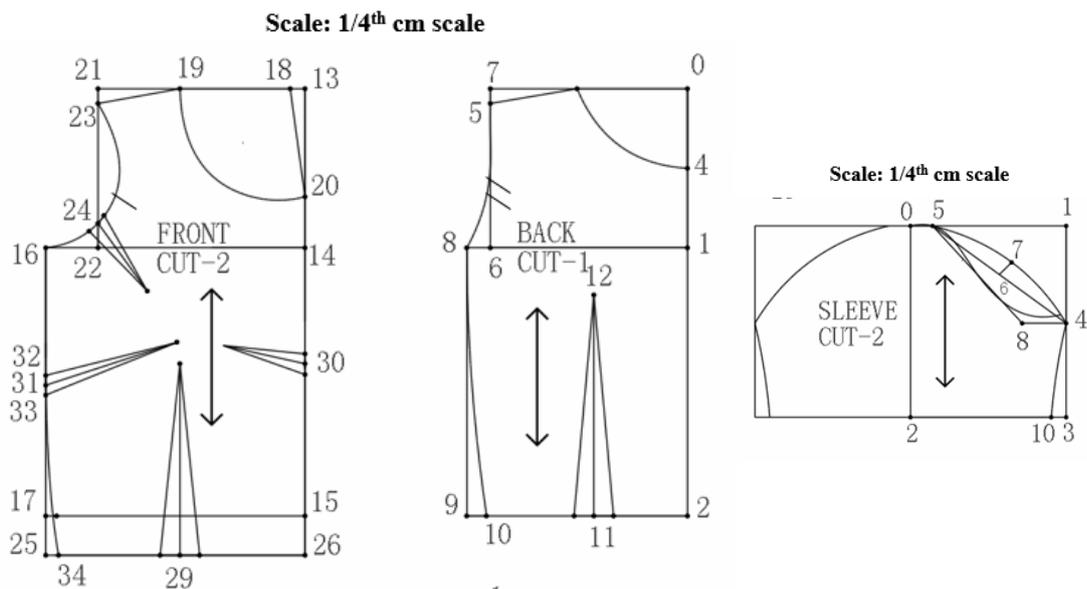
Illustration 4.17: Drafting of Front, Back and Sleeve of Blouse 4

Blouse 5: Blue Brocade Blouse

Instructions for drafting

FRONT:

- 1-0= one-eighth chest plus 6.5 cm (2½").
- 2-0 = full length.
- 3-0 = one-twelfth chest plus 1 cm (¼") or to taste.
- 4-0 = one-eighth chest or to taste.
- Shape neck 4-3.
- 5-0 = shoulder plus 1 cm (¼").
- Square down from 5 to 6.
- 7-5 = 2 cm (¾"). Join 3-7.
- 8-6 = 2.5 cm (1").
- 9-1 = one-fourth chest plus 4 cm (1½").
- Shape scye 7-8-9.
- Square down from 9 to 10.
- 11-10 = 2 cm (¾"). Join 9-11.
- 12-11 = 1.5 cm (½").
- 13-2 = 2 cm (¾").

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- Shape bottom 13-12.
- 14-13 = one-twelfth chest plus 1 cm (¼").
- 15-9 and 16-1 = 5 cm (2") each.

DARTS:

- Take 3 cm (1¼") dart at 14, 1.5 cm (½") dart at 15 and 1 cm (¼") dart at 16 as shown.

BACK:

- 17-0 = 6.5 cm (2½") or to taste.
- Shape neck 17-3.
- Shape scye 7-18-9 as shown.
- Take 1.5 cm (½") dart at 14 on line 11-2.
- Keep 2 cm (¾") outside 11-9 (of back) and 12-9 (of front) for inlays.

PLAIN SLEEVE:

- Square lines from 0, fold at 2-0.
- 1-0 = one-eighth chest plus 6.5 cm (2½").
- 2-0 = sleeve length plus 1 cm (¼").
- 8-4 = 5 cm (2") for ladies and 4 cm (1½") for girls' garments.
- Join 8-5. Taking 1 cm (¼") above point 4, shape front-side 4-8.
- 3-2 = same as 1 to 0. Join 3-1.
- 4-1 = one-eighth chest.
- 5-0 = 2.5 cm (1"). Join 4-5.
- 6 is midway 4 to 5.
- 7-6 = 2 cm (¾").
- Shape back-side 4-7-5-0 as shown.
- Square up from 4 to 8.
- 9-0 as shown.
- 10-2 = half sleeve round plus 1.5 cm (½").
- Join and shape 4-10.
- Keep 3 cm (1¼") inturns at 10-2.
- Keep 2 cm (¾") inlays at 10-4.

Illustration 4.18: Drafting of Front, Back and Sleeve of Blouse 5

Blouse 6: Kapdi of Choudhary Community

The *Kapdi* worn by Choudhary women for casual wear closely resembled that of the Halpati women and was traditionally constructed using eight-ten fabric pieces. However, the version worn for marriages and by brides featured structural differences. As noted in Pandya's (1983) study, this variation incorporated components such as a bask, gusset, side panel, and katori, reflecting distinctions in garment construction based on occasion and function. Additionally, the blouse was made by joining multiple fabric pieces,

Scale: 1/4th cm scale
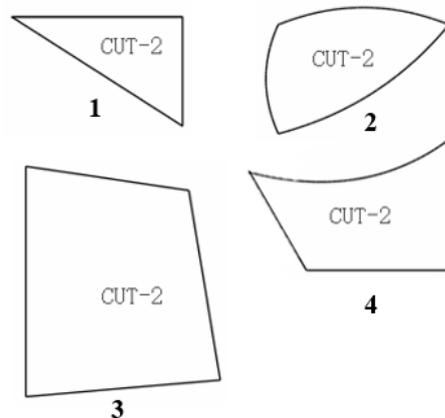
Illustration 4.19: Drafting of Front, Back and Sleeve of Blouse 6

often utilizing waste fabric, aligning with traditional technical methods of garment construction.

Blouse 7: Kapdu of Bharwad Community

Instructions for drafting

FRONT:

- Square line from 0
- = Total length

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- 0-2 = Neck depth
- 0-3 = 2.3 cm
- 3-4 = Sleeve length + half front shoulder
- 3-5 = ¾ neck depth
- 5-7 = Neckline to armhole ridge
- 7-6 = Sleeve length
- 1-8 = 1/5 waist girth
- 8-9 = Below the bust to waist
- 9-10 = 2.5 cm
- 7-13 = 1 cm
- Join 7 and 8
- Join 11 to 12
- 0-14 = Highest shoulder to pivot point + 2 cm

BACK:
- 0-1= Full length
- 0-2= Half shoulder + sleeve length (Till the elbow)
- 0-3= 1/3 scale + 2.5 cm
- 2-6 = Half sleeve girth
- Join 3-6
- 3-7 = 9-10 cm
- 7-8 = 3 cm
- 0-9 = 7 cm
- Join 0-7 with a smooth curve
- Join 9-8 with a smooth curve
- Draw a perpendicular line from 7 and mark it as 10
- 7-11 = 7 cm
- 7-12 = 19-20 cm
- Join 11-12 with a slant
- 10-14, 11-13 & 13-15 = 3.5 cm
- 14-16 = 2 cm

- Join 13-14 & 15-16
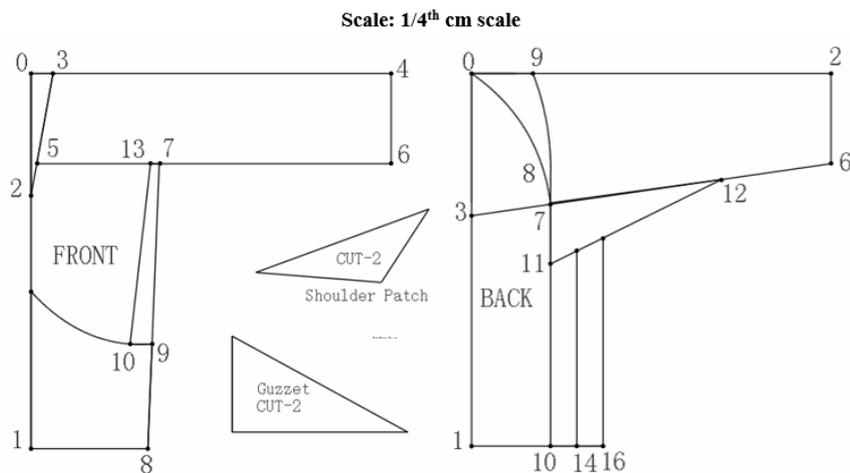
Illustration 4.20: Drafting of Front, Back and Sleeve of Blouse 7

Blouse 8: White Lace Blouse

Instruction of drafting

Centre part (1):

- Square lines from 0 on a four-layer fold, with folds at 1-0 and 5-0.
- 1-0 = length plus 1.5 cm (½").
- 2-0 = one-sixth neck.
- 3-0 = one-sixth neck plus 0.75 cm (¼").
- Shape front neck 3-2.
- 4-0 = 1.5 cm (½").
- Shape back neck 4-2.
- 5-0 = shoulder plus 1 cm (¼").
- 6-1 = same as 5-0. Join 5-6.
- 7-8 = one-fourth chest plus 2.5 cm (1").
- Draw line 7-8 at a distance of 1.25 cm (½") from line 3-1.
- 13 is squared down from 11.
- 13-11 = 12 to 10 less 2.5 cm (1").
- Join 13-12.
- Keep 1.5 or 4 cm (½" to 1½") for hem or inturns at 13-11.
- Cut the upper layer at 7-8, thus keeping the right side wider than the left.

Sleeve (2):

- Square lines from 10, fold at 11-10.
- 11-10 = sleeve length from shoulder plus 2 cm (¾").
- 12-10 = one-fourth chest less 2.5 cm (1"), sleeve mark.

Kali (3):

- 15-14 = distance mark (i.e., one-eighth chest) from 6 to 9 plus 1.5 cm (½").
- Square lines from 14 and 15.
- 16-14 = one-twelfth chest, 2 cm (¾").
- 17-15 = one-fourth chest less 2.5 cm (1").
- Join 17-16.
- 20-14 = nearly one-fourth chest.
- 21-20 = one-sixth chest, pocket opening.
- 22-21 = one-eighth chest or to taste.
- 22-15 = the slit (i.e., opening).
- Shape 15-18.
- Points 19 to 22 are given only for information.
- 19-14 = same as 24-23.

Bagal (4):

- Take a square piece with each side = one-eighth chest
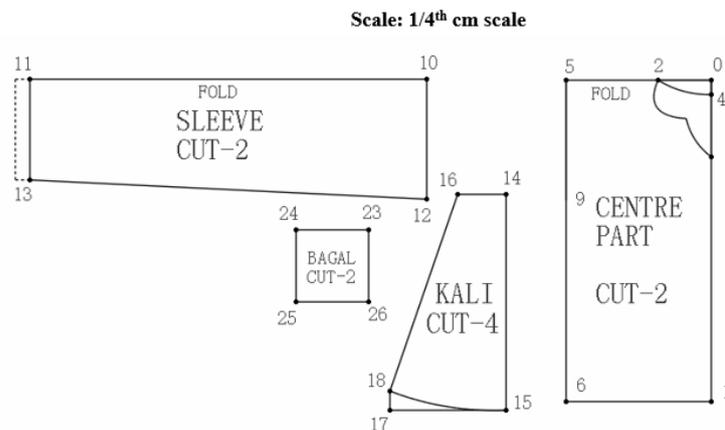
Illustration 4.21: Drafting of Front, Back and Sleeve of Blouse 8

Blouse 9: Pink Tanchoi Blouse

Instructions for drafting:

BACK:

- Square lines from 0, fold at 2-0.

- 1-0 = one-eighth chest plus 5 cm (2").

- 2-0 = full length less 1.5 cm (½").

- Square out from 1 and 2.

- 3-0 = one-eighth chest or to taste.

- 4-0 = one-twelfth chest or to taste.

- Shape neck 4-3.

- 5-0 = shoulder plus 1 cm (¼").

- Square down from 5 to 6.

- 7-5 = 1.5 cm (½"). Join 3-7.

- 8-1 = one-fourth chest.

- Shape scye 7-8.

- Square down from 8 to 9.

- 10-9 = 2 cm (¾"). Join 8-10.

- 11-2 = one-twelfth chest plus 1.5 cm (½").

- Square up from 11 to 12.

- 12 is 4 cm (1½") below the chest line 1-8.

- Take 2 cm (¾") dart at 11-12.

FRONT:

- Draw line 13-14-15 and produce the lines of back as shown.

- 16-14 = one-fourth chest plus 4 cm (1½").

- Square down from 16 to 17.

- 18-13 = 1.5 cm (½").

- Shape 18-14 as shown.

- 19-18 = same as 3 to 0 of back.

- 20-18 = one-eighth chest or to taste. Shape neck 20-19.

- For back opening, if required take point 20 on line 13-14.

- 21-18 = same as 5 to 0 of back.

- Square down from 21 to 22.

- 23-21 = 1.5 cm (½"). Join 19-23.

- 24-22 = nearly 2.5 cm (1").

- Shape scye 23-24-16.

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- 25-17 and 26-15 = 4 cm (1½") each. Join 26-25.

DARTS**:**

- 27-14 = one-twelfth chest plus 2 cm (¾").
- 28-29 is squared down from 27.
- 28-27 = one-eighth chest less 4 cm (1½") or bust length from shoulder at 19 plus 1.5 cm (½").
- Take 4 cm (1½") dart at 29. For more prominent bust, suppress more cloth in this dart.
- 30-14 = same as 28 to 27.
- Take 1.5 to 2 cm (½ to ¾") dart at 30.
- 31-16 = one-eighth chest or 1.5 cm (½") more.
- 32-31 = 1.5 cm (½").
- 33-31 = 1.5 cm (½") from 31 and 1 cm (¼") inside line 16-17.
- Take dart 33-28-32 as shown.
- 34-26 = one-fourth waist plus 1.5 cm (½") + dart width at 29. Join 33-34. If required, take a dart at 24.
- Keep 2 to 2.5 cm (¾ to 1") inlays outside 8-10 and 16-34.

BASK:

- Square lines from 24.
- 25-24 = one-fourth waist plus width at 1.5 cm (½").
- 26-24 = 7.5 cm (3").
- 27-25 = 5 cm (2").
- Shape 26-27.
- Keep 2 to 2.5 cm (¾ to 1") outside 10-12 and 27-25 for inlays.

SLEEVE WITH FULLNESS AT THE SHOULDER

- Square lines from 0,
- one-eighth chest plus 1.5 cm (½"), as usual.
- X-0 = 4 to 5 cm (1½" to 2") or to taste.
- 2-0 = sleeve length plus 1.5 cm (½") for seams, plus 5 cm (1½" to 2") for gathers.
- Shape 4-7-5-0 and 4-8-9-0 as usual (see page 46).
- 10-2 = half sleeve round plus 1.5 cm (½").
- Shape 11-2.

- Keep 2 cm (¾") inlays at 11.4.

Scale: 1/4th cm scale

Illustration 4.22: Drafting of Front, Back and Sleeve of Blouse 9

Blouse 10: Orange Blouse

Instructions for drafting

BACK:

- Square lines from 0, on a four-layer fold, with folds at 2-0 and 5-0.
- 1-0 = one-eighth chest plus 6.5 cm (2½").
- 2-0 = full length.
- 3-0 = one-twelfth chest plus 1 cm (¼"), or to taste.
- 5-0 = shoulder plus 1 cm (¼").
- Square down from 5 to 6.
- 7-5 = 2 cm (¾"). Join 3-7.
- 8-6 = 2.5 cm (1").
- 9-1 = one-fourth chest plus 4 cm (1½").
- Shape scye 7-8-9.
- Square down from 9 to 10.
- 11-10 = 2 cm (¾"). Join 9-11.
- 12-11 = 1.5 cm (½").
- 13-2 = 2 cm (¾").
- Shape bottom 13-12.
- 14-13 = one-twelfth chest plus 1 cm (¼").
- 15-9 and 16-1 = 5 cm (2") each.
- 17-0 =6.5 cm (2½") or to taste. Shape neck 17-3.

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- Shape scye 7-18-9 as shown.
- Take 1.5 cm (½") dart at 14 on line 11-2.
- Keep 2 cm (¾") outside 11-9 (of back) and 12-9 (of front) for inlays.

DARTS:

- Take 3 cm (1¼") dart at 14, 1.5 cm (½") dart at 15, and 1 cm (¼") dart at 16 as

FRONT:

- Square lines from 0.
- 1-0 = one-eighth chest plus 5 cm (2").
- 2-0 = full length less 2.5 cm (1").
- Square lines from 1 and 2.
- 3-0 = one-eighth chest or to taste.
- 4-0 = one-eighth chest or to taste.
- Shape neck 4-3.
- 5-0 = shoulder plus 2 cm (¾").
- Square down from 5 to 6-7.
- 8-5 = 1.5 cm (½"). Join 3-8.
- 9-6 = about 2.5 cm (1").
- 10-1 = one-fourth chest plus 5 cm (2"). Shape scye 8-9-10.
- Square down from 10 to 11.
- 12-2 = one-fourth waist plus 2.5 cm (1") plus dart width at 23.
- Shape sideseam 10-12.
- 13-0 = one-fourth chest plus 2.5 cm (1"). Square out to 14.
- 14-5 = same as 13 to 0.
- Join 13-14.
- 15 is midway 13 to 14.
- 16-13 and 17-14 = each 2.5 cm (1").
- For chest 92 cm (36") and more, keep this distance up to 3 to 4 cm (1¼" to 1½").
- Join 16-15 and 17-15.
- 18 is midway 4 to 3.
- Join and shape 18-17.
- 19-14 = 17-15 plus 15-16.
- 20-2 = 2.5 cm (1").

- Join 19-20. 21-7 = 5 cm (2").

- Shape bottom 20-21.

- 22 is midway 14 to 19.

- Square down from 22 to 23.

- Take 3 cm (1¼") dart at 23.

BASK:

- Square lines from 24.

- 25-24 = one-fourth waist plus 1.5 cm (½").

- 26-24 = 7.5 cm (3").

- 27-25 = 5 cm (2"). Shape 26-27.

- Keep 2 to 2.5 cm (¾" to 1") outside 10-12 and 27-25 for inlays.

Scale: 1/4th cm scale
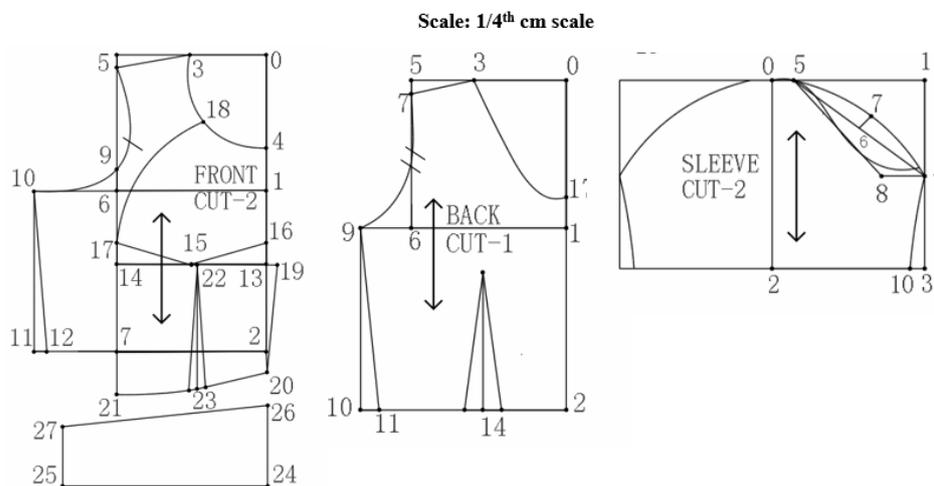
Illustration 4.23: Drafting of Front, Back and Sleeve of Blouse 10

Blouse 11: Kapdi Mashru

The *Kapdi* worn by Choudhary women for casual wear closely resembled that of the Halpati women and was traditionally constructed using eight-ten fabric pieces. However, the version worn for marriages and by brides featured structural differences. As noted in Pandya's (1983) study, this variation incorporated components such as a bask, gusset, side panel, and katori, reflecting distinctions in garment construction based on occasion and function.Additionally, the blouse was made by joining multiple fabric pieces, often utilizing waste fabric, aligning with traditional technical methods of garment construction.
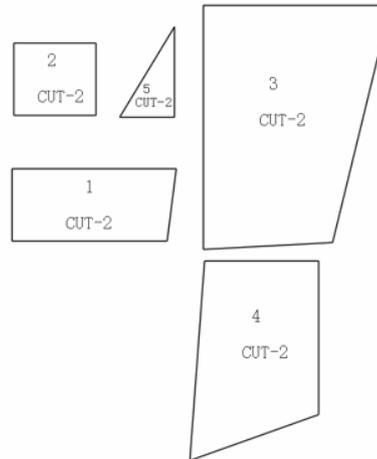
Illustration 4.23: Drafting of Front, Back and Sleeve of Blouse 11

Blouse 12: Pink *Asavali* Blouse

Instructions for drafting

FRONT**:**

- 0-1 = Full length.
- 0-2 = Half shoulder + sleeve length till the elbow.
- 0-3 = 2.5 cm.
- 0-4 = Neck depth.
- 0-5 = 10-11 cm.
- Join 3-6-4.
- 5-6 = 10 cm.
- 4-7 = 1.5-2 cm.
- 1-8 = 3-4 cm.
- 0-9 = 1/3 scale + 5 cm.
- 2-10 = half sleeve girth.
- Join 9-10.
- 9-11 = 1/4 chest + 2 cm.
- Join 5-11 with smooth curve.
- 1-12 = 1/4 waist + 6 cm.
- Join 11-12 with smooth curve.
- 12-13 = 8-9 cm.
- Join 7-13 & 8-12 with a smooth curve.

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- 14 is the midpoint of the 13.

- 15 is the midpoint of the 8-12.

- Join 14-15.

- Mark for the knife pleats of 0.5 cm wide between 8-15 and 15-12 at equal intervals

BACK:

- 0-1 = full length.

- 0-2 = half shirt sleeve length till elbow.

- 0-3 = 1/3 scale + 3 cm.

- 3-4 = 3-4 cm.

- 2-5 = half sleeve girth.

- 1-6 = 1/4 waist + 2 cm.

- 4-7 = 1 cm.

- 7-8 = 13.5 cm at 45°.

- 7-9 = 15.5 cm.

- Join 7-8 and 9-8, 8-6.

Scale: 1/4th cm scale
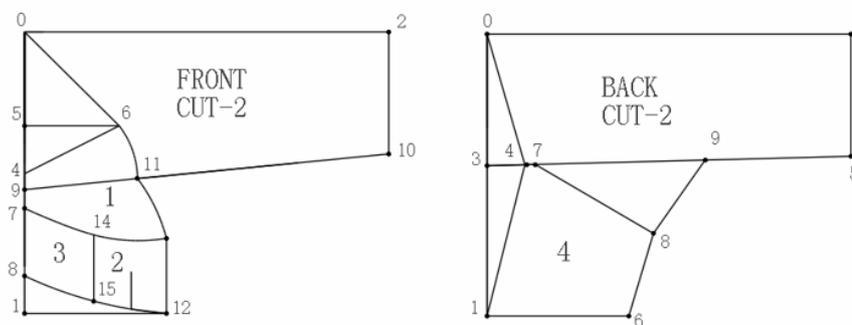
Illustration 4.24: Drafting of Front, Back and Sleeve of Blouse 12

Blouse 13: Green *Asavali* Blouse The green *Asavali* blouse follows the same overall pattern as the Blouse 12 pink *Asavali* blouse, with only one key difference in its shaping technique. While the pink blouse features traditional darts for contouring, the green blouse replaces them with three pleats. These pleats are positioned at equal intervals, with a 1.5 cm gap between each, ensuring a balanced and structured fit.
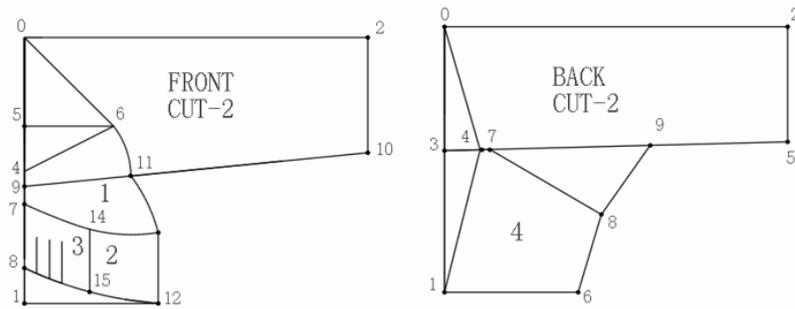
Illustration 4.25: Drafting of Front, Back and Sleeve of Blouse 13

4.3.2 Identification of challenges in converting traditional cuts into digital formats.

The process of converting traditional garment cuts into digital formats presents multiple challenges, particularly due to the distinctive construction techniques used in traditional blouse designs. Traditional blouses often relied on straight or triangular fabric pieces assembled strategically to achieve the desired shape rather than contemporary fitted patterns that incorporate darts or princess seams. These unique design elements posed significant difficulties while translating them into digital patterns.

Many traditional blouses were constructed using geometric fabric panels, such as straight or triangular pieces, which were assembled to form the silhouette. Unlike modern fitted garments, some of these blouses featured raglan sleeves with gusset attachments, where triangular fabric pieces were integrated to shape the neckline or provide ease of movement. Additionally, certain designs were formed by joining fabric panels without any structured fitting elements like darts. Translating these unconventional construction techniques into digital form required a detailed understanding of how these fabric pieces interrelated when stitched together. Unlike contemporary patterns, where shaping is achieved through structured seams and dart manipulations, traditional blouses often relied on fabric assembly techniques. This created challenges in digital drafting, as standard software tools are primarily designed for modern garment construction. Elements such as gusset insertions, neckline shaping using triangular fabric pieces, and panel-based construction without shaping features required extensive manual modifications within digital platforms to accurately replicate the traditional style.

Navigating Richpeace software for the first time can be overwhelming due to the complexity of multiple toolbars, menus, and functions. It takes time to become familiar

with the various tools used for drafting, modifying, and assembling garment patterns, which may initially seem confusing. Additionally, unlike manual drafting where freehand drawing is possible, Richpeace requires precise numerical inputs for measurements, angles, and curves, making it more technical. The software also demands knowledge of shortcut keys and commands to work efficiently, which can be challenging for beginners. Ensuring accuracy in key elements such as seam allowances, notches, and joining points requires a more detailed approach than traditional drafting. Managing different layers (patterns, seam allowances, notches, grainlines) adds another level of complexity, making it important for new users to carefully organize and navigate these features to create accurate and well-constructed digital patterns.

To effectively work on pattern making, drafting, and fabric construction, a combination of technical, creative, and practical skills is essential. A strong foundation in pattern making is required, including drafting techniques, grading, and pattern modifications to create new designs or adjust for different sizes. Knowledge of garment construction is equally important, encompassing skills like sewing, fitting adjustments, and understanding the step-by-step assembly process. Fabric knowledge is crucial, as one must understand fabric types, properties, and how to manipulate them for different garment styles. Creative design skills, including sketching, trend awareness, and attention to detail, are necessary to conceptualize and develop unique garments. Additionally, proficiency in technical drawing and precise measuring is essential to create accurate patterns and ensure proper fit. Overall, a blend of craftsmanship, creativity, and technical understanding is vital for success in pattern making and garment construction.

Without prior experience in digital pattern drafting, the learning curve was steep, requiring additional time to master the basic functionalities of the software while ensuring traditional garment authenticity was maintained.

4.4 Documentation and Analysis of the Data

This section focuses on the digital documentation of traditional garment patterns and construction techniques to ensure their accessibility for future generations. A combined qualitative and quantitative approach was adopted to systematically categorize, analyze,

and interpret the garments. The key aspects covered include Categorization, Construction Features, Condition Assessment , Historical Context & Physical Description Validating the garment's origin, silhouette variations, and unique design elements.

The data was compiled into a comprehensive Documentation Sheet, initially developed by Ms. Kanika Choudhary and previously used by Suhootoorah Frayhah. A separate catalog was also created to maintain systematic records. Some elements, such as donor details and production history, were omitted. This documentation serves as a vital resource for researchers and conservators, ensuring the preservation and study of these cultural artifacts.

Categorization

The documented blouses were analyzed to identify common stylistic elements based on observation and drafting references from the *Zarapkar System of Cutting*. The blouses were grouped according to structural similarities, fabric types, embellishments, and stitching techniques. Based on these characteristics, the 13 blouses were categorized into distinct styles, including:

1. Saree Blouse
2. Katori Blouse with Bask
3. Kalidar Blouse
4. Basked Saree Blouse

This classification not only helped in understanding traditional blouse construction techniques and variations but also played a role in adapting these styles during drafting and digital pattern development. By analyzing structural differences and garment composition, necessary modifications were made to accommodate contemporary body measurements while preserving the essence of traditional designs.
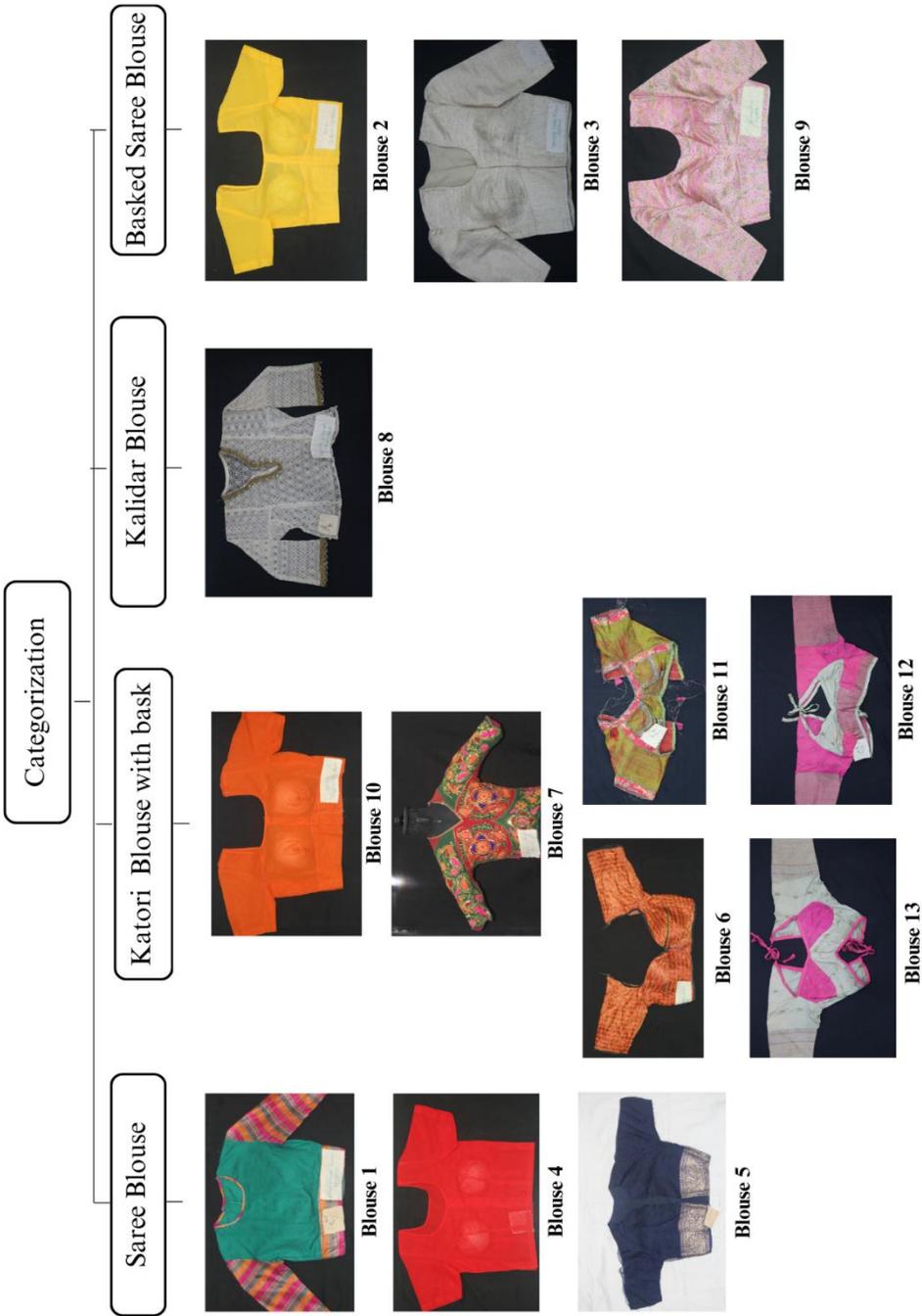
Figure 4.17: Categorization of Blouses

Condition Assessment

This section assessed the overall condition of the documented blouses by examining fabric degradation, discoloration, wear over time, and missing components such as fasteners, trims, or embroidery. To ensure consistency in evaluation, a standardized condition rating system developed by Manek, K. (2004) was applied:

- Good: Minor damage without active deterioration, including small holes, creases, folds, colour fading, or frayed yarns. Preventive conservation may be needed.
- Fair: Noticeable damage with gradual deterioration, such as tears at folds, large holes, abraded areas, or multiple damages. Preventive conservation, such as repairing tears or mending holes, may be required.
- Poor: Significant damage with ongoing deterioration, making the textile fragile and structurally unstable. Curative conservation is essential to stabilize the artefact.

By systematically documenting these aspects, the condition assessment provides insights into the preservation needs of each blouse, ensuring informed conservation strategies for safeguarding these textile artefacts.

Table 4.27: Condition Assessment of Blouse 1	
Blouse 1: Plain Blouse with Mashru Sleeves	
Image	**Condition**
Plate 4.16: White and blue stains on Blouse 1 marked with black circles	- Good with damage noted - Appears stable but has signs of wear and deterioration through holes and fraying. - Damage noted, with visible holes and fraying in some areas. - Presence of blue and white colour stains, likely due to fabric bleeding or environmental exposure.

Plate 4.17: Holes and Fraying see on blouse

- Weak seams and unravelling observed in some parts.
- Side seam and back darts intact, though may require reinforcement.
- Piping on neckline and 6cm wide border remain structured.
- Signs of fading and discoloration, affecting the vibrancy of the original colours.
- Creases and soiling detected, which may indicate dust accumulation or exposure to humidity.
- No active insect damage, but past moth activity may have contributed to fabric weakening.

Table 4.28: Condition Assessment of Blouse 2	
Blouse 2: Yellow Blouse	
Image	**Condition**
 Plate 4.18: Lipstick stain on Blouse 2	- The blouse is in good condition with no significant structural damage. However, a lipstick stain is visible on the left shoulder**.** - The seams, stitching, and fabric appear stable with no active deterioration.

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Table 4.29: Condition Assessment of Blouse 3	
Blouse 3: Off White Tanchoi Blouse	
Image	**Condition**
Plate 4.19: Creases on Blouse 3	- The blouse is in good condition with no significant structural damage. - Only creases all over the blouse was observed. - The seams, stitching, and fabric appear stable with no active deterioration

Table 4.30 Condition Aseeseement of Blouse 4	
Blouse 4: Red Blouse	
Image	**Condition**
Plate 4.20: Blouse 4	- The Blouse in good condition - No Damage was found

Table 4.31 Condition Assessment of Blouse 5	
Blouse 5: Blue Brocade Blouse	
Image	**Condition**
Plate 4.21: Yellowing, and Fraying on Blouse 5	- The Blouse is in fair condition - Fraying and tearing are present on the edges of the outer fabric. - Visible creases throughout the blouse. - Holes and tears detected under the arm area. - Yellowing of the fabric indicates age-related discoloration. - Fasteners for closure such as eye and hook are missing - The overall condition is fragile, with signs of wear and weakened seams. - Requires careful handling to prevent further deterioration.

Table 4.32 Condition Assessment of Blouse 5	
Blouse 6: Kapdi of Choudhary Community	
Image	**Condition**
Plate 4.22: Holes on Blouse 6	- Overall the Blouse is in fair condition - Creases present throughout the garment. - Holes and fraying around gussets and side panels. - Untidy machine stitching with overlapping stitches on the center front. - Pu*ckeri*ng due to incorrect sewing tension along seams. - Weak seam at side panel. - Despite these issues, the structure of the blouse remains intact. - Cloth ties for the closure is missing

Table 4.33: Condition Assessment of Blouse 7	
Blouse 7: Kapdu of Bharwad Community	
Image	**Condition**
Plate 4.23: Blouse 6	• No significant signs of major deterioration • The blouse is in good condition • Some signs of age and wear (loose threads, slight fraying) • Creases and soiled

Table 4.34: Condition Assessment of Blouse 8	
Blouse 8: White Lace Blouse	
Image	**Condition**
Plate 4.24: Blouse 8	• The blouse is in good condition • Slight soiling due to dust accumulation • No major deterioration or active damage is observed • The delicate net fabric and intricate embellishments appear well-preserved • Minimal signs of wear beyond surface dus

Table 4.35: Condition Assessment of Blouse 9	
Blouse 9: Pink Tanchoi Blouse	
Image	**Condition**
Plate 4.25 Crease on Blouse 9	• The blouse is in good condition with no significant structural damage. • Only creases all over the front was observed. • The seams, stitching, and fabric appear stable with no active deterioration

Table 4.36: Condition Assessment of Blouse 10	
Blouse 10: Orange Blouse	
Image	**Condition**
Plate 4.26: Blouse 10, No damage Found	• The blouse is in **good condition** with no significant structural damage. • No damage was found. • The seams, stitching, and fabric appear stable with no active deterioration

Table 4.37: Condition Assessment of Blouse 11	
Blouse 11: Kapdi Mashru	
Image	**Condition**
Plate 4.27: Blouse 11 Unravelling, Fraying and holes	• The blouse is in fair condition • Fraying edges with numerous loose threads • Visible unravelling of fabric fibres • Structural breakdown along seams and edges • Threads are coming loose, creating a web-like appearance of stray fibres • Weakened seams with visible thread separation • Snagging and pulling of the metallic thread embroidery, resulting in uneven and frayed embellishments. • Printed floral and paisley borders show slight peeling or loss of surface colour. • Small tears or abrasions on the main fabric, particularly in the central areas.

Table 4.38: Condition Assessment of Blouse 12

Blouse 12: Pink *Asavali* Saree Blouse

Image	Condition
Discoloration **Plate 2.28: Discoloration and Perspiration Stains on Blouse 12**	• Overall, the blouse is in good condition. • Creases are present throughout the garment. • The gold *buttis* motifs remain intact, though slightly tarnished in some areas. • Stitching is secure, with no significant fraying or loose threads. • Discoloration and perspiration stains are also seen

Table 4.39: Condition Assessment of Blouse 13

Blouse 13: Green *Asavali* Blouse
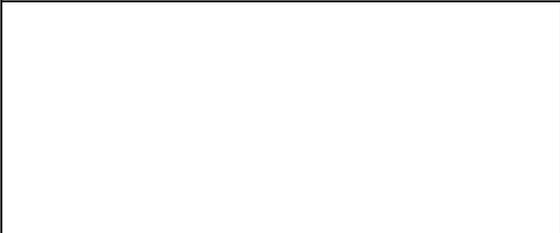
Image	Condition
	• Overall, the blouse is in fair condition. • Creases are present throughout the garment.

  Plate 4.29:Pink colour stains and creases on Blouse 13	• The gold *buttis* motifs remain intact, though slightly tarnished in some areas. • Stitching is secure, with no significant fraying or loose threads. • Pink colour stains have bled onto the mint green surface, especially visible on the back side. • Unraveling of the *buttis* is observed along the waist edge, indicating fabric wear and deterioration.

Construction Features (Supporting Digital Pattern Development)

This section examined the seam types, stitching methods, reinforcement techniques, dart placements, pleats, panelling, and finishing details of the documented blouses. The analysis aided in modifying digital patterns by refining sizes, neckline shapes, and structural details for accuracy and adaptability.

- Seam Types & Stitching Methods: Blouses featured plain, lapped, bias-bound, and flat-felled seams with both hand-sewn (backstitch, darning) and machine-stitched (chain, lock stitch) techniques.

- Reinforcement Techniques: Bias-facing, additional fabric layers, and interlining ensured durability.

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- Dart Placements & Panelling: Bust, waist, and armhole darts enhanced fit, while front pleats and princess seams provided structure.
- Finishing Details: Piping, hand-stitched trims, and closures (hook-and-eye, metal snaps) were key decorative and functional elements.

These findings supported digital pattern refinement, ensuring better fit, structural integrity, and design authenticity while preserving traditional aesthetics in modern adaptations.

Table 4.40: Construction Features of Blouse 1,2 and 3

Feature	Blouse 1 (Mashru)	Blouse 2 (Yellow)	Blouse 3 (Tanchoi)
Seam Types	Plain seam	Plain seam	Plain seam
Stitching Methods	Machine stitch, Hand Hemming	Machine stitch, Hand Hemming	Machine Stitch, Machine edge finishing on the neckline
Reinforcement Techniques	0.5 cm bias binding piping on the neckline	0.5 cm intern machine stitched bias binding piping	0.5 cm bias facing piping on the neckline
Dart Placements	Two bust darts of the same length at equal distance and one side seam dart in the front and one dart at the back on each side, Waist Darts (Front), Side Seam Darts (Front), 13cm long dart (back)	Two back darts, front armhole dart, waist dart, side seam dart, and center bust-level dart, Armhole Dart (Front), Side seam Dart (Front), Waist Dart (Front), Waist Dart (Back)	Two back darts, a front armhole dart, a waist dart, a side seam dart, and a center bust-level dart, Armhole dart, Center Front Bust Dart, Waist Darts (Front), Side seam dart, Waist Darts (back)

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Pleats / Gathers	No pleats	No pleats	No pleats mentioned
Panelling	Stripped Mashru Sleeves (woven cloth that is a blend of silk and cotton), 6cm Wide border	Bask present at the front, Bask	Puff sleeves, Bask under the bust, Bask (Front), Cotton – Rubia Lining
Finishing Details/ Placket Details	Back-opening with hooks and eye closures, featuring a right-over-left placket, 30 cm long and 4.5cm wide left placket with eye, Hand Hemming + Machine stitch the right placket with 7 hooks	Front-opening blouse with hooks and eye closures, featuring a right-over-left placket, 22.5 cm long and 2.5cm wide intron right placket, 2 cm in turn allowance at the sleeve edge, 2 cm intern allowance at the waist line with hand hemming, 22.5 cm long and 5cm intron wide left placket with hand sewn eye, Hook for closure	Front opening with a right-over-left placket secured by seven hooks and eye closures, Queen Anne Neckline, 24 cm long and 2.5cm wide right placket, 24 long and 5 cm wide left placket with eye, Hooks for closure, Machine edge finishing, 2 cm intern allowance at the waist line (front & back)

Table 4.41: Construction Features of Blouse 4,5and 6

Feature	Blouse 4 (Red)	Blouse 5 (Blue Brocade)	Blouse 6 (All Over Mashru)
Seam Types	Plain seam	Plain seam	Plan seam

Stitching Methods	Machine Stitching	Machine stitch	Machine stitch
Reinforcement Techniques	0. 5 cm intern machine bias binding piping	Bias Facing, edge machining	0. 5 cm Piping on neckline, waistline, bust line and sleeve edges
Dart Placements	Two back darts, front armhole dart, waist dart, side seam dart, and center front bust darts	Two back darts and waist dart, Waist Dart (Front), Waist Dart (Back)	No darts mentioned
Pleats/ Gathers	No pleats mentioned	No pleats mentioned	No pleats mentioned
Panelling	No specific panelling mentioned	Brocade Border with golden thread	10 separate pieces (2 pieces each), magyar sleeves with a gusset, Side Panel, Bask (Front) Single Piece, Katori (Single piece)
Finishing Details /Placket Details	2 cm intern allowance at the sleeve end, 1. 5 cm intern allowance at the waist line (front & back), 7cm long slit with 2 cm inturn, 22. 5 cm long and 5cm wide left placket with eye hand sewn, Hooks for closure, 22. 5cm	Front-opening long blouse without hooks and eye closures, featuring a right-over-left placket, Edge Machining on the sleeve end, 1 cm intern allowance at the waist line	Wide and curved pointed neckline, Straight cut sleeves, 0. 5 cm Piping on neckline, waistline, bust line and sleeve edges, Gusset at the underarm area, Plain Machine stitch, untidy stitching, Overlapping

	long and 2. 5cm wide right placket		stitches on the centre front, Puc*keri*ng

Table 4.42: Construction Features of Blouse 7,8 and 9

Feature	Blouse 7 (Kutchi)	Blouse 8 (White Top UP)	Blouse 9 (Pink Tanchoi)
Seam Types	Plain seam	Hexagonal twisted mesh structure	Plain seam
Stitching Methods	Machine Stitch, Hand embroidery, plain seam	Plain Machine stitch	Machine Stitch, plain seam
Reinforcement Techniques	Triangle patch (Neck)	Gold trim braided with plastic sequins using golden and brown threads	0. 5 cm bias facing piping on the neckline with machine edge finishing
Dart Placements	No darts mentioned	No darts mentioned	Armhole dart, Center Front Bust Dart, Waist Darts (Front), Side seam dart, Waist Darts (back)
Pleats/Gathers	Gathers at the bust level	No pleats mentioned	No pleats mentioned
Panelling	Katori (bust panel) with gathers, side panels, a gusset	Bagal (square piece under the arm) and Kali (side panel)	Bask under the bust

Feature			
	under the arms, and a bask		
Finishing Details	Backless, secured by two fabric ties (neck and waist), V-neckline with piping	Keyhole neckline with a press button, gold trim with sequins, small black stones scattered across the fabric	Front opening with a right-over-left placket secured by seven hooks and eye closures, 2 cm intern allowance at the waist line (front & back)

Table 4.43: Construction Features of Blouse 10,11,12 and 13

Feature	Blouse 10 (Orange)	Blouse 11 (Defect)	Blouse 12 (Pink Brocade)	Blouse 13 (Sage Green)
Seam Types	Plain Woven	Satin weave	Plain Woven, Extra weft technique	Plain Woven, Extra weft technique
Stitching Methods	Machine Stitch	Hand Stitch (Darning stitch , Back stitch, Zig-zag Stitch)	Plain Woven	Plain Woven
Reinforcement Techniques	-	Printed border and gotta patti silver border	-	-

Dart Placements	Waist darts in both the front and back	No darts mentioned	darted construction at the bask of the body	structured, darted construction
Pleats	No pleats mentioned	No pleats mentioned	No pleats mentioned	No pleats mentioned
Panelling	Katori (cup-shaped fabric panels) along with waist darts in both the front and back	separate pieces that are joined together by hand making a geometric patchwork construction	two-toned silk, blending vibrant pink on the field and sleeves and mint green on the bust panels. brocade border,	two-toned silk , blending vibrant pink on the bust panel and mint green on the field and the sleeves. brocade border
Finishing Details	Front-opening blouse with hooks and eye closures, featuring a right-over-left placket	open back, which is typically fastened using cloth ties that hang loose down the waist	halter neckline with elegant tie-up straps at the back of the neck, backless design, secured with two cloth ties	halter neckline with elegant tie-up straps at the back of the neck, backless design, secured with two cloth ties

Historical Context and Physical Description (Validated and Referenced Through Sources)

This section discussed the overall historical context and physical description of the documented blouses, validated and referenced through reliable sources. The verification of each garment's origin and cultural significance was conducted to establish its historical and regional background, ensuring authenticity in documentation. Detailed analysis of blouse silhouettes, sleeve variations, and neckline styles was carried out to categorize

different designs. Additionally, distinctive stylistic features such as piping, frills, additional fabric layers, and unique embellishments were documented to highlight their role in traditional aesthetics and functionality. By compiling these details, this section provides a comprehensive understanding of each blouse's historical relevance and design evolution, aiding in accurate documentation and pattern adaptation.

Table 4.44: **Historical Context and Physical Description of Blouse 1**

Blouse 1: Plain sleeve with Mashru Blouse	
Place of origin	• Gujarat, India
Physical Description	• The body of the blouse is plain, while the sleeves have bright stripes with intricate patterns. It has a simple round neckline and back-opening with hooks and eye closures, featuring a right-over-left placket. The blouse has stripped mashru at sleeves and border at the waist and simple elbow length sleeves. It has darts in the front and at the back. • Striped Pattern with *Khajuria or Mamul* (Chevron/Arrow) Motifs on the sleeve and border: The sleeves have a repeating striped pattern with colours in orange, pink, and grey. Chevron-like known as *"Khajuria" or "Mamul"* motifs are present within the stripes, common in Mashru textiles and are culturally significant in regions like Gujarat
Usage and Significance	• The blouse is an essential garment that complements sarees, lehengas, and other traditional Indian outfits. It covers the upper body and is typically worn underneath the saree or other draped garments, providing both modesty and structural support. • Mashru, historically also spelled as mashroo, misru, mushroo, or mushru, is a woven textile blending silk and cotton, originating from the Indian subcontinent. This fabric allowed orthodox Muslims, who were traditionally restricted from wearing pure silk, to enjoy the luxury of silk's sheen while

	adhering to religious guidelines that favoured simpler materials like linen over silk, velvet, brocade, or fur.

Table 4.45: **Historical Context and Physical Description of Blouse 2**

Blouse 2: Yellow Blouse	
Place of origin	• Jodhpur, Rajasthan, India
Physical Description	• Front-opening blouse with hooks and eye closures, featuring a right-over-left placket. The blouse has a deep round neckline with short plain sleeves and a bask present at the front, creating a structured lower edge. Two back darts, front armhole dart, waist dart, side seam dart, and center bust-level dart for a fitted silhouette. • No visible motifs; plain fabric with structural seams enhancing the fit.
Usage and Significance	• The blouse is an essential garment that complements sarees, lehengas, and other traditional Indian outfits. It covers the upper body and is typically worn underneath the saree or other draped garments, providing both modesty and structural support.

Table 4.46: **Historical Context and Physical Description of Blouse 3**

Blouse 3: Off white Tanchoi Blouse	
Place of origin	Gujarat, India
Physical Description	The blouse features puff sleeves and a front opening with a right-over-left placket secured by seven hooks and eye closures. It has a gently curved, deep, rounded neckline, moderately deep and a bask under the bust for a sculpted silhouette. The blouse has two back darts, a front

	armhole dart**,** a waist dart, a side seam dart**,** and a center bust-level dart and back darts**.** The fabric showcases paisley *(kairi)* motifs**,** floral vine patterns, creepers and leaves. The motifs are arranged in a repetitive all over layout.
Usage and Significance	The blouse is an essential garment that complements *sarees, lehengas*, and other traditional Indian outfits. It covers the upper body and is typically worn underneath the saree or other draped garments, providing both modesty and structural support. *Tanchoi* weaving, originating from China and brought to India (Gujarat and Banaras), is a unique technique that uses multiple coloured weft threads (extra weft) with a single or double warp to create intricate, brocade-like patterns. The best weave for *Tancho*i sarees is a satin or twill weave with extra weft threads, which gives the fabric a soft, smooth texture and ensures no floating threads on the reverse side. This technique allows for the creation of delicate, embroidery-like designs, often enhanced with *buttis* (gold or silver yarn) for added embellishment and richness.

Table 4.47: **Historical Context and Physical Description of Blouse 4**

Blouse 4 : Red Blouse	
Place of origin	Jodhpur, Rajasthan, India
Physical Description	Front-opening long blouse with hooks and eye closures, featuring a right-over-left placket. It has a deep round neckline, short plain sleeves, and side slits for ease of movement. The blouse is structured with armhole darts, waist darts, side seam darts, and center front bust darts, along with waist darts at the back for a contoured fit. No visible motifs; plain fabric with structural seams enhancing the fit

Usage and Significance	The blouse is an essential garment that complements sarees, lehengas, and other traditional Indian outfits. It covers the upper body and is typically worn underneath the saree or other draped garments, providing both modesty and structural support.

Table 4.48: **Historical Context and Physical Description of Blouse 5**

Blouse 5: Blue Brocade Blouse	
Place of origin	Uttar Pradesh, India
Physical Description	Front-opening long blouse without hooks and eye closures, featuring a right-over-left placket. It has a round neckline, short plain sleeves with brocade border with extra weft design at the waist. The blouse is structured with waist darts at the front and back side of the blouse.
	This decorative border features a striking design with a narrow geometric zigzag pattern at the top, followed by a thin straight line that separates it from the main panel. The central section showcases the paankinar - elaborate floral motifs dominated by large lotus or sunflower-like blooms with detailed textured centers resembling lotus seed heads. These main flowers are surrounded by intricately curved leaf structures with visible veining, all connected by graceful curling vines. The metallic thread creates a beautiful raised effect against the blue background, with the symmetrical and repeating pattern alternating between dense metallic threadwork and open spaces that reveal the blue beneath. This sophisticated handloom craftsmanship represents a kinkhab brocade border, characteristic of traditional Indian textile arts from regions renowned for their fine weaving techniques.
Usage and Significance	The blouse is an essential garment that complements sarees, lehengas, and other traditional Indian outfits. It covers the upper body and is typically worn underneath the saree or other draped garments, providing both modesty and structural support.
	Banarasi brocades and sarees are known for their rich and intricately woven motifs of leaves, flowers, fruits birds etc. commonly practiced

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	in states like Banaras and Gujarat. They are enriched with an intricate border and heavily decorated pallavs in glittering weaves of gold and silver threads.

Table 4.49: **Historical Context and Physical Description of Blouse 6**

Blouse 6: Kapdi of Choudhary Community	
Place of origin	*Choudharay* Community of Gujarat, India
Physical Description	The blouse is a traditional '*Kapdi*' blouse, likely worn by the Chaudhary women of Gujarat. It is made from Mashru, characterized by its lustrous texture**.** It is made of 10 separate pieces (2 pieces each) that are joined together. The blouse features a wide and curved pointed neckline, which is a variation of the sweetheart neckline, and magyar sleeves with a gusset, which extend seamlessly from the bodice, provide ease of movement The back of the blouse is open, suggesting it is a backless design, which is typically fastened using cloth ties that hang loose down the waist, maintaining a traditional fastening method. Linear pattern formed through parallel yellow stripes with black dot**s** running vertically across the orange base**.** The yellow lines are evenly spaced and provide a striking contrast against the vivid red-orange background**,** enhancing the visual appeal of the blouse.
Usage and Significance	'*Kapdi*' blouse is likely worn by the Chaudhary women of Gujarat, either from Mashru or Gajji fabric**,** this blouse style is commonly worn by Chaudhary women during casual occasions, while a slightly different and more elaborate version is reserved for weddings and festive ceremonies. The construction differed in shape from the casual version, and each seam was finished with a double row of machinin**g** for durability. The *Kapdi* was often made by repurposing any available fabric at home**,** reflecting the practical and resourceful nature of its makers. The garment's length extended till the bust level, leaving half of the bust exposed, making it a striking and culturally significant piece of attire.

	Mashru, historically also spelled as mashroo, misru, mushroo, or mushru, is a woven textile blending silk and cotton, originating from the Indian subcontinent. This fabric allowed orthodox Muslims, who were traditionally restricted from wearing pure silk, to enjoy the luxury of silk's sheen while adhering to religious guidelines that favoured simpler materials like linen over silk, velvet, brocade, or fur.

Table 4.50: **Historical Context and Physical Description of Blouse 7**

Blouse 7: *Kapdu* of *Bharwad* Community	
Place of origin	*Bharwad/Rabari* Community of Gujarat, India
Physical Description	The *Kapadu* blouse typically features full-length or three-quarter sleeves and is constructed by joining 14 fabric pieces (2 pieces each), including katori (bust panel) with gathers, side panels for structure, a gusset under the arms for ease of movement, and a bask to provide a snug fit around the lower edge. This version of the *Kapadu* is distinguished by its V-shaped neckline, enhanced with a triangle patch for additional reinforcement and decoration along with Combination of solid and embroidered panels. The blouse is long in length and backless, secured by two fabric ties one at the neck and the other at the waist.

Paisley designs (particularly on the green sections) , Circular floral medallions (prominent on the red chest section) , Leaf motifs and vines, Birds and Geometric borders |
| Usage and Significance | In Gujarat, Rabari/Bharvad women traditionally wear a three-part ensemble comprising a tubular woolen skirt (pachhedo), a backless blouse (kapadu), and a long, brightly colored veil (chundari), which is often adorned with indigenous motifs. The motifs and designs in Rabari embroidery are inspired by nature and their surroundings, symbolizing the nomadic lifestyle of the Rabari community. This embroidery is known for its heavy embellishments, featuring geometric shapes such as squares, triangles, diamonds, and circles, along with floral patterns. Additional decorative elements include |

	mirrors of various shapes, buttons, and intricate white and yellow embroidery, which give the blouse a vibrant yet soothing appearance.

Table 4.51: Historical Context and Physical Description of Blouse 8

Blouse 8: White Lace Blouse	
Place of origin	Uttar Pradesh, , India
Physical Description	This blouse is made from soft, lace-like net fabric with an intricate geometric pattern. It is lightweight and see-through, featuring hexagonal and circular designs across the material. The blouse has full-length, wide-cut sleeves for a comfortable fit made with *Kalidar* style which consists of a *Bagal* (square piece under the arm) and a kali (side panel). It features a keyhole neckline with a press button and is decorated with a gold trim braided with plastic sequins using golden and brown threads. This gold trim also lines the neckline and sleeve edges, giving it a fancy look. Shiny sequins are scattered within the trim, adding a bit of sparkle. The fabric is also decorated with small black stones spread throughout. Designed for children aged 2-6 years, this blouse is both elegant and playful. Geometric pattern characterized by hexagonal shapes, circular elements, and interconnected diamond-like designs intricately woven into the mesh net. This symmetrical and repetitive pattern structure creates a sense of balance and uniformity, enhancing the visual appeal. The delicate sequin, stone, and metallic golden thread embellishments
Usage and Significance	In, Uttar Pradesh, a net-made kalidar blouse or top is a symbol of elegance and cultural heritage, often worn with lehenga, sharara, or gharara during festivals, weddings, and special occasions. It frequently features Chikankari embroidery, a traditional handcraft that reflects the region's rich artistic legacy. The kalidar design, with its flowing panel cuts, adds grace and movement, making it a popular choice for both traditional and modern attire. Beyond fashion, it also

supports local artisans, preserving Lucknow's craftsmanship and representing luxury and social status.

Netting Technique: Netting involves interlocking threads to form a mesh-like structure, created using techniques similar to weaving but with open spaces that produce a grid or hexagonal pattern. It is typically made on bobbinet or Raschel machines, which are specially designed for producing lace and tulle. The fabric has a rigid, open structure resembling a net, with hexagonal or diamond-shaped openings. It is lightweight and airy, yet stiff enough to hold its shape well, making it ideal for use in bridal veils, lingerie, and decorative trims.

Table 4.52: Historical Context and Physical Description of Blouse 9

Blouse 9: Pink Tanchoi Blouse	
Place of origin	Gujarat, India
Physical Description	The blouse features puff sleeves and a front opening with a right-over-left placket secured by seven hooks and eye closures. It has a round neckline, and a bask under the bust for a sculpted silhouette. The blouse has two back darts, a front armhole dart, a waist dart, a side seam dart, and a center bust-level dart and back darts. The fabric showcases paisley (kairi) motifs, floral vine patterns, creepers and leaves. The motifs are arranged in a repetitive all over layout.
Usage and Significance	The blouse is an essential garment that complements sarees, lehengas, and other traditional Indian outfits. It covers the upper body and is typically worn underneath the saree or other draped garments, providing both modesty and structural support. Tanchoi weaving, originating from China and brought to India (Gujarat and Banaras), is a unique technique that uses multiple coloured weft threads (extra weft) with a single or double warp to create intricate, brocade-like patterns. The best weave for Tanchoi

sarees is a satin or twill weave with extra weft threads, which gives the fabric a soft, smooth texture and ensures no floating threads on the reverse side. This technique allows for the creation of delicate, embroidery-like designs, often enhanced with buttis (gold or silver yarn) for added embellishment and richness.

Table 4.53: **Historical Context and Physical Description of Blouse 10**

Blouse 10: Orange Blouse	
Place of origin	Jodhpur, Rajasthan, India
Physical Description	Front-opening blouse with hooks and eye closures, featuring a right-over-left placket. It has a deep round neckline, short plain sleeves, and a structured bask at the front. The design includes katori (cup-shaped fabric panels) along with waist darts in both the front and back, ensuring a contoured fit. No visible motifs; plain fabric with structural seams enhancing the fit.
Usage and Significance	The blouse is an essential garment that complements sarees, lehengas, and other traditional Indian outfits. It covers the upper body and is typically worn underneath the saree or other draped garments, providing both modesty and structural support.

Table 4.54: **Historical Context and Physical Description of Blouse 11**

Blouse 11: Kapdi Mashru	
Place of origin	Gujarat, India
Physical Description	The blouse is a traditional *'Kapdi or "Kapdu'* blouse, is made from Mashru featuring a striped Mashru fabric in shades of green and yellow, with the edges and seams adorned with a floral and paisley-patterned trim in red and yellow tones, created by attaching a printed border and gotta patti silver border. It is made of separate pieces that are joined together by hand making a geometric patchwork construction. The blouse features a wide and curved pointed neckline, The back of the blouse is open, , which is typically fastened using cloth

	ties that hang loose down the waist, maintaining a traditional fastening method.
	The edges and seams are adorned with a floral and paisley-patterned trim in red and yellow tones, created by attaching a printed border.
Usage and Significance	*Kapdi* blouse is likely worn by the women of Gujarat, either from Mashru or Gajji fabric, this blouse style is commonly worn by women during casual occasions, while a slightly different and more elaborate version is reserved for weddings and festive ceremonies and also day to day life. The construction differed in shape from the casual version of blouse, it is made my joining of different pieces by hand or machine. The *Kapdi* was often made by repurposing any available fabric at home, reflecting the practical and resourceful nature of its makers. The garment's length extended till the bust level, leaving half of the bust exposed, making it a striking and culturally significant piece of attire.
	Mashru, historically also spelled as mashroo, misru, mushroo, or mushru, is a woven textile blending silk and cotton, originating from the Indian subcontinent. This fabric allowed orthodox Muslims, who were traditionally restricted from wearing pure silk, to enjoy the luxury of silk's sheen while adhering to religious guidelines that favoured simpler materials like linen over silk, velvet, brocade, or fur.

Table 4.55: **Historical Context and Physical Description of Blouse 12**

Blouse 12: Pink *Asavali* Blouse	
Place of origin	Gujarat, India
Physical Description	This Asavli blouse is a made silk using the extra weft technique. The blouse features a halter neckline with elegant tie-up straps at the back of the neck The main body is made from two-toned silk, blending vibrant pink on the field and sleeves and mint green on the bust panels. Scattered across the pink fabric are delicate *buttis* (small motifs), likely inspired by paisley or floral designs, created with shimmering

	gold *buttis* work (metallic thread embroidery). This *buttis* embroidery with golden threads extends throughout the blouse, adding a touch of opulence and cultural richness. The backless design, secured with two cloth ties, the structured, darted construction at the bask of the body provides a flattering, fitted silhouette made with many pieces joined together, while the lower edge is adorned with an intricate brocade border, offering a striking contrast to the delicate motifs on the main fabric. The full-length sleeves are wide and flowing, and are decorated with dense geometric and floral brocade patterns at the cuffs, while smaller scattered *buttis* mirror the designs on the blouse body. The blouse features small, scattered motifs (likely paisley or floral) woven in gold *buttis* across the vibrant pink fabric, adding subtle elegance. The lower hem and sleeves showcase a heavier brocade-like weaving known as the all-over *jaal*, characterized by intricate, continuous patterns. This is complemented by a paan kinnar border, enhancing the blouse's decorative appeal. The *buttis* (small motifs) are delicately placed across the body and sleeves, reflecting the detailed craftsmanship of traditional Gujarati brocade.
Usage and Significance	Brocade weaving in Gujarat is a centuries-old craft known for its rich patterns, luxurious textures, and intricate designs. These brocades are crafted using silk and metallic threads (often gold or silver *buttis*), creating elaborate motifs inspired by nature, architecture, and cultural symbols. Among the most famous types is the Ashavali Brocade, which originated in Ashaval (modern-day Ahmedabad) and is distinguished by its dense floral and geometrical motifs with *buttis*. It is especially known for "*meena* work" (colored inlays) and raised patterns, adding depth and elegance. Patola Brocade, from Patan, Gujarat, combines the double ikat technique with brocade-like richness and symbolizes ritual purity and status, making it highly valued for ceremonial purposes. Another significant type is the *Tanchoi* Brocade, which was introduced by Chinese traders and later adopted in Gujarat. This brocade features a satin weave with small,

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delicate motifs in bright colors, making it a popular choice for sarees and bridal wear due to its soft drape. Together, these brocades showcase Gujarat's rich textile heritage, blending tradition with artistry and reflecting cultural pride.

Ashavali sarees derive their name from the ancient town of Ashaval, which existed long before Ahmed Shah founded and renamed it Ahmedabad. The town was named after the 11th-century ruler Asha Bhil. These sarees, also known as Kinkhab, were traditionally woven by the Khatris and were once reserved exclusively for royalty and nobility. Renowned for their luxurious use of metallic gold and silver threads (*buttis*), they are also called Amdavadi or Amdavadi *buttis* sarees, reflecting their association with Ahmedabad—a prominent brocade and silk weaving center since the fifteenth century. The intricate motifs featured in *Ashavali* sarees include veils, *buttis*, paisleys, gold coins, stripes, star patterns, *keri* (mango motifs), small dots, peacocks, parrots, and elaborate jaal (mesh) designs. These elaborate patterns and the use of precious materials make *Ashavali* sarees a symbol of Gujarat's rich textile heritage and exceptional craftsmanship.

The traditional brocade blouse from Gujarat is a significant representation of the region's rich textile heritage and cultural identity. Worn primarily during special occasions such as weddings, festivals like Navratri, and religious ceremonies, it complements traditional attire like sarees and *chaniya* cholis. The blouse showcases intricate brocade craftsmanship, where gold and silver *buttis* threads are woven into elaborate patterns, reflecting the artisanal skill and preserving age-old weaving techniques. Historically, such garments symbolized affluence and social prestige, especially among royal and aristocratic families, and are often cherished as heirlooms passed down through generations. This blouse not only highlights Gujarat's artistic excellence but

	also plays a crucial role in maintaining and promoting the legacy of its textile traditions.

Table 4.56: **Historical Context and Physical Description of Blouse 13**

Blouse 13: Green *Asavali* Blouse	
Place of origin	Gujarat, India
Physical Description	This *Asavali* blouse is a made silk using the extra weft technique. The blouse features a halter neckline with elegant tie-up straps at the back of the neck The main body is made from two-toned silk, blending vibrant pink on the bust panel and mint green on the field and the sleeves. Scattered across the green fabric are delicate *buttis* (small motifs), likely inspired by paisley or floral designs, created with shimmering gold *buttis* work (metallic thread embroidery). This *buttis* embroidery with golden threads extends throughout the blouse, adding a touch of opulence and cultural richness. The backless design, secured with two cloth ties, the structured, darted construction at the bask of the body provides a flattering, fitted silhouette made with many pieces joined together, while the lower edge is adorned with an intricate brocade border, offering a striking contrast to the delicate motifs on the main fabric. The full-length sleeves are wide and flowing, and are decorated with dense geometric and floral brocade patterns at the cuffs, while smaller scattered *buttis* mirror the designs on the blouse body. The main body of the blouse is adorned with small, rectangular gold *buttis* motifs, resembling stylized *buttis*, evenly spaced across the mint green fabric. These motifs are intricately woven with metallic threads, adding a subtle shimmer to the garment. The sleeve border features an elaborate brocade pattern with a blend of geometric and floral influences. It consists of fine horizontal lines in gold *buttis* on the innermost section, followed by a continuous paan (betel leaf) border and a chowkda (checkered) border

Usage and Significance	Brocade weaving in Gujarat is a centuries-old craft known for its rich patterns, luxurious textures, and intricate designs. These brocades are crafted using silk and metallic threads (often gold or silver *buttis*), creating elaborate motifs inspired by nature, architecture, and cultural symbols. Among the most famous types is the *Ashavali* Brocade, which originated in Ashaval (modern-day Ahmedabad) and is distinguished by its dense floral and geometrical motifs with *buttis*. It is especially known for "*meena work*" (colored inlays) and raised patterns, adding depth and elegance. Patola Brocade, from Patan, Gujarat, combines the double **ikat** technique with brocade-like richness and symbolizes ritual purity and status, making it highly valued for ceremonial purposes. Another significant type is the *Tanchoi* Brocade, which was introduced by Chinese traders and later adopted in Gujarat. This brocade features a satin weave with small, delicate motifs in bright colors, making it a popular choice for sarees and bridal wear due to its soft drape. Together, these brocades showcase Gujarat's rich textile heritage, blending tradition with artistry and reflecting cultural pride. *Ashavali* sarees derive their name from the ancient town of Ashaval, which existed long before Ahmed Shah founded and renamed it Ahmedabad. The town was named after the 11th-century ruler Asha Bhil. These sarees, also known as Kinkhab, were traditionally woven by the Khatris and were once reserved exclusively for royalty and nobility. Renowned for their luxurious use of metallic gold and silver threads (*buttis*), they are also called Amdavadi or Amdavadi *buttis* sarees, reflecting their association with Ahmedabad—a prominent brocade and silk weaving center since the fifteenth century. The intricate motifs featured in *Ashavali* sarees include veils, *buttis*, paisleys, gold coins, stripes, star patterns, *keri* (mango motifs), small dots, peacocks, parrots, and elaborate *jaal* (mesh) designs. These elaborate patterns and the use of precious materials make *Ashavali*

	sarees a symbol of Gujarat's rich textile heritage and exceptional craftsmanship.
	The traditional brocade blouse from Gujarat is a significant representation of the region's rich textile heritage and cultural identity. Worn primarily during special occasions such as weddings, festivals like Navratri, and religious ceremonies, it complements traditional attire like sarees and *chaniya* cholis. The blouse showcases intricate brocade craftsmanship, where gold and silver *buttis* threads are woven into elaborate patterns, reflecting the artisanal skill and preserving age-old weaving techniques. Historically, such garments symbolized affluence and social prestige, especially among royal and aristocratic families, and are often cherished as heirlooms passed down through generations. This blouse not only highlights Gujarat's artistic excellence but also plays a crucial role in maintaining and promoting the legacy of its textile traditions.

4.5 Preparation of Documentation Sheet Report and Catalogue

This section presented the systematic compilation of findings into a comprehensive Documentation Sheet. The format used was initially developed by Ms. Kanika Choudhary, a former teacher and researcher at the Department of Clothing and Textiles, and was previously utilized in Suhootoorah Frayhah's dissertation. Specifically designed for the Textile Art Museum, this documentation format aligns with standards followed by museums across India.

Following museum documentation protocols, the catalogue was meticulously filled with all necessary details to create a structured record for each blouse. However, certain elements from the original documentation sheet such as the date/time period of acquisition, donor details, production information, and Dino Light-captured images were intentionally omitted from the document.

Museum documentation played a crucial role in textile conservation and research, offering detailed insights into materials, construction techniques, and condition assessments. The documentation sheet serveed as an internal archival tool for museum

professionals, ensuring accurate preservation and conservation of textile artifacts. While the documentation sheet ensured rigorous archival preservation, it fosters public engagement, making cultural heritage more accessible and appreciated.

The catalogue complied with documentation sheets detailing at 13 blouses has been preserved at the Textile Art Museum, Department of clothing and Textiles.

CHAPTER V

SUMMARY AND CONCLUSION

5.1 Introduction

India has a rich textile heritage, with traditional garments reflecting regional craftsmanship and cultural significance. Textile museums played a crucial role in preserving and promoting this heritage by showcasing historic fabrics, embroidery, and weaving techniques. These museums also provided inspiration to designers, supported artisans, and contributed to public education. However, many traditional garments, particularly women's blouses, remained undocumented in museum archives, risking the loss of their historical and cultural value.

The Textile Art Museum at The Maharaja Sayajirao University of Baroda, established in the 1960s under Prof. Savitri Pandit, housed over 500 textile pieces across four main categories. Despite its extensive collection, systematic documentation of women's blouses was lacking, making research and preservation challenging.

This research aimed to bridge this gap by creating a structured digital inventory of traditional blouses from the museum's collection. Digital cataloging helped preserve, organize, and enhance accessibility for scholars worldwide. The study also explored digital pattern-making as a method to accurately document garment construction, enabling replication for educational and research purposes. Through this initiative, the research contributed to improving museum documentation techniques and safeguarding India's textile heritage for future generations.

5.2 Purpose of the study

The research aimed to document and digitally preserve traditional garments from the Textile Art Museum, addressing challenges such as limited documentation, garment fragility, restricted accessibility, and the underutilization of modern technology. Due to the absence of digital records, researching and preserving these garments was difficult, and frequent handling risked damage.

To overcome these issues, the study created digital archives of blouse patterns that minimized physical handling while enhancing documentation accuracy. By integrating digital pattern-making, the research provided a precise, efficient alternative to manual drafting, ensuring traditional blouse construction methods recorded for modern use. Digital archives also facilitated global collaboration, enabling broader access to cultural heritage.

Ultimately, the research promoted the adoption of contemporary documentation technologies in museums, expanding knowledge of traditional garment construction and supporting heritage conservation. This initiative bridged the gap between tradition and technology, ensuring that India's textile heritage was preserved, appreciated, and reinterpreted for future generations.

5.3 Objectives of the study

4. To study, analyse, and document the garments in the Textile Art Museum in terms of their place of origin, colour, fabric, ornamentation, and style features.
5. To create digital patterns of the garments using drafting instructions.
6. To prepare a comprehensive catalogue of the documented garments.

5.4 Delimitation of the study

- The study focused on garments, specifically blouses, that were not documented in the "Textile Art Museum," Department of Clothing and Textiles, Faculty of Family and Community Sciences, The Maharaja Sayajirao University of Baroda, Vadodara.

5.5 Review of Literature

This chapter aimed to establish the existing knowledge on the research topic. It was divided into Theoretical Review and Research-Related Review. *Review of Literature*, focused on the historical and cultural significance of traditional blouses, emphasizing their evolution, regional variations, and role in cultural identity. It explored the documentation and preservation of textile heritage, highlighting museum practices, cataloguing methods, and challenges associated with preserving historical garments. The

chapter examined various textile conservation techniques that were used to maintain and restore antique textiles, ensuring their longevity. Additionally, it reviewed existing research on traditional Indian textiles and clothing, particularly in the context of museum archives, to understand previous studies and gaps in documentation. Furthermore, the chapter discussed advancements in digital documentation and cataloguing, emphasizing the role of modern technology in preserving textile heritage.

The Theoretical Review covered:

- The importance of textile museums for preserving textile heritage.
- An overview of textile museums in India.
- The necessity of documentation in museums.
- Causes and forms of textile deterioration.
- Proper handling and storage of textiles.

The Research-Related Review covered:

- Research on textile documentation.
- Methods of textile documentation and cataloguing.
- Pattern development and digital pattern making.

5.6 Methodology

This section outlined the research methodology adopted for documenting and digitally preserving traditional blouses housed at the Textile Art Museum, The Maharaja Sayajirao University of Baroda, Vadodara. The methodology was structured into four phases: garment classification, simultaneous documentation and data collection, pattern development, and comprehensive cataloguing. The study followed a qualitative and descriptive research approach, utilizing both primary and secondary data collection methods to ensure comprehensive documentation. Primary data was obtained through direct observation and a questionnaire survey of individuals working in textile museums. Secondary data was gathered from books, journals, websites, and dissertations to support and enrich the analysis, including documentation methods, fabric type, construction, style features, digital pattern creation, drafting, and cataloging processes.

The chapter outlined the research design, the classification of garments (specifically focusing on women's blouses), sample selection from the collection of Textile Art Museum, and the data collection process, incorporating observations, questionnaires, photography, visual analysis, and manual measurements. It further explained the development of digital patterns using drafting instructions and software, the subsequent data documentation and analysis, and the preparation of a documentation sheet report and a catalogue.

5.7 Results and Discussions

This chapter presented the findings from the systematic documentation of selected female upper garments from the Textile Art Museum. The research was conducted in four phases: classification, data collection, drafting, and catalogue preparation. In Phase 1, 13 blouses were selected using purposive sampling and were classified based on fabric, style, ornamentation, color, and place of origin. Phase 2 involved data collection through primary sources (observations and questionnaires) and secondary sources (books, journals, websites, and dissertations), followed by data analysis. Phase 3 focused on drafting patterns using Richpeace software, which aided in garment reconstruction. Phase 4 involved compiling a detailed catalogue to document and preserve the recorded garment information for future reference. The chapter was structured to systematically present the study's findings, ensuring a thorough and organized documentation process.

5.5.1 Sample Selection

In the Textile Art Museum, there were a total of 55 blouses. Among them, 18 have been documented, while 37 still need detailed records. For this study, 13 blouses were selected using purposive sampling method. The selection was based on factors such as place of origin, risk of deterioration, and absence of prior documentation.

5.5.2 Collection of Data

Data collection involved both primary and secondary sources, including museum archives, curator interviews, books, research articles, and textile reports. The selected blouses were carefully observed and preserved using a qualitative approach. Methods included visual analysis, questionnaires, high-resolution photography with a Canon

D1300 DSLR, and manual measurements. A 1.5 cm square pick glass was used to analyze weave type and fabric count. Each garment was examined for fabric, weave, embellishments, stylistic features, seams, and fasteners, ensuring comprehensive documentation.

5.5.2.1 Data Collection from Textile Museum Professionals

Interviews and discussions with textile museum professionals provided valuable insights into the historical background, construction techniques, and preservation methods of traditional blouses. Their expertise helped in understanding the evolution and significance of these garments. To further explore documentation, curation, and preservation practices, a questionnaire was distributed to 15 professionals from renowned textile museums across India, France, the UK, Iran, Hungary, Austria, and Turkey. Titled *"Documentation of Garments in the Textile Art Museum: Preserving Heritage Through Digital Cataloguing",* the questionnaire focused on museum documentation methods, cataloging practices, conservation challenges, and digital archiving. It examined written records, photography, videography, storage conditions, preventive conservation, acquisition practices, provenance research, and career opportunities in textile museums. The questionnaire was then shared via LinkedIn to ensure accuracy and relevance.

5.5.2.2 High Resolution Photography

Thirteen blouses were photographed using a Canon D1300 DSLR camera to create digital records. A suitable background was selected to enhance garment details. Each blouse was captured from multiple angles, including front and back views, with close-up shots highlighting embellishments, embroidery, seams, openings, and any signs of wear. Additional cups and stuffing were used for some blouses to maintain their original shape and drape. This meticulous photography process ensured accurate documentation of fabric texture, structure, and overall condition, contributing to a comprehensive digital archive for research, exhibitions, and textile heritage preservation.

5.5.2.3 Visual analysis of the samples

The visual analysis focused on key parameters including fabric type, weave structure, colour, texture, fibre content, twist, ply, surface ornamentation, decorative elements, style features, and fasteners. Each blouse was placed on a muslin cloth for a neutral and

protective background. A pick glass with 1.5 cm square measurement was used to examine weave structure, and five readings were taken for warp and weft count to ensure accuracy through averaging. Condition reports were also prepared to document any signs of wear, damage, or alterations for future conservation planning.

5.5.2.4 Manual Measurements

Manual measurements were taken using a measuring tape following the metric system, covering key dimensions like bust, waist, length, darts, neckline, armhole, and sleeves. These were recorded through detailed pencil sketches of front and back panels. A muslin cloth was used beneath each blouse to ensure a neutral, clean background during the process.

5.5.3 Development of Digital Patterns using Drafting Instructions

Digital patterns were developed using Richpeace software, translating manual measurements into precise digital formats based on the *Zarapkar System of Cutting* with modern adaptations. This process preserved traditional blouse construction while enabling easy replication. Unlike common museum practices, this innovative method offered faster, more accurate results with minimal handling of delicate garments. Digital pattern-making also supports global collaboration, sustainable archiving, and the preservation of intangible heritage by bridging traditional techniques with modern technology.

5.5.3.1 Digital Pattern Creation Using Step-by-Step Drafting Instructions

Traditional blouse patterns were recreated digitally following a structured drafting process. Step-by-step instructions were used to ensure accuracy while maintaining the original design elements. This helped in preserving traditional cuts in a modern format.

5.5.3.2 Identification of challenges in converting traditional cuts into digital format

Converting traditional blouse cuts into digital formats posed several challenges due to their unconventional construction methods. Unlike modern fitted garments, traditional blouses often used geometric fabric pieces like straight or triangular panels, raglan sleeves, and gusset insertions without structured fitting elements such as darts. These

unique techniques were difficult to replicate using standard digital tools, requiring detailed manual adjustments within the Richpeace software.

The software itself added complexity, especially for beginners. Navigating multiple toolbars, entering precise measurements, and managing layers like seam allowances and notches demanded technical precision and familiarity with shortcut keys. Unlike freehand manual drafting, digital drafting required a more methodical approach.

Overcoming these challenges required a strong foundation in pattern making, fabric knowledge, garment construction, and creative design skills. With no prior experience in digital drafting, mastering the software took extra time and effort to ensure the authenticity of traditional garment construction was preserved in the digital transition.

5.5.4 Documentation and Analysis of the Data

This section highlights the digital documentation of traditional garment patterns and construction techniques to preserve them for future use. A mixed qualitative and quantitative approach was used to categorize, analyze, and interpret the garments based on features like construction, condition, historical context, and physical descriptions. A standardized Documentation Sheet, originally developed by Ms. Kanika Choudhary, was partially modified and used alongside a separate catalog to systematically record the findings. While some details like donor information and production history were excluded, the documentation provides a valuable resource for researchers and conservators in safeguarding cultural heritage.

5.5.5. Preparation of Documentation Sheet Report and Catalogue

This section outlines the structured documentation of traditional garments using a format developed by Ms. Kanika Choudhary, aligned with Indian museum standards and previously used in Suhootoorah Frayhah's dissertation was partially modified and used. The documentation sheet, created for internal archival use at the Textile Art Museum, captured key details about each blouse, though certain elements like donor information and production history were omitted. A separate catalogue was designed using Canva to visually and descriptively present the garments for public engagement. While the documentation sheet supports accurate preservation and research, the catalogue enhances

accessibility and appreciation of cultural heritage, together ensuring both conservation and outreach.

5.8 Conclusion

This research highlighted the critical need for preserving traditional garments through systematic documentation, with a particular focus on women's blouses preserved at the Textile Art Museum, The Maharaja Sayajirao University of Baroda, Vadodara. These blouses were far more than mere articles of clothing; they embodied narratives of identity, craftsmanship, regional traditions, and cultural continuity. The study, titled "Documenting Textile Art Museum Garments: Preserving Heritage Through Cataloguing," was undertaken not only to safeguard these invaluable heritage pieces but also to uncover and interpret the rich socio-cultural stories intricately woven into each blouse.

The traditional blouses documented during the study represented a wide spectrum of regional artistry and techniques, each reflecting the lifestyle and customs of their time. From blouses embellished with *gota-patti, zardozi*, and mirror work, to handwoven and naturally dyed fabrics, each piece showcased India's deep-rooted legacy of textile excellence. These garments were more than archival relics; they represented living histories of communities, rituals, and feminine expressions of their era.

The research methodology, designed in four well-structured phases classification, data collection, digital pattern creation, and cataloguing provided a comprehensive framework for preserving textile artifacts. Each phase played a critical role in developing a standardized, accessible, and replicable documentation format that could serve as a model for other museums and researchers.

One of the most transformative aspects of this research was the integration of Richpeace software for digital pattern development. Unlike traditional manual drafting methods which were often time-consuming and susceptible to inaccuracies, particularly when dealing with delicate or aged garments, Richpeace offered a highly precise and efficient alternative. It allowed for the creation of accurate digital patterns without physically stressing or damaging the original blouses. This technological approach facilitated safer preservation while enabling easy storage, replication, and reinterpretation of traditional

blouse designs for both academic study and contemporary design exploration. In addition, Richpeace software offered advanced features such as digital annotation and manipulation, elevating it far beyond conventional manual techniques. Researchers and designers could engage with the blouse patterns in a dynamic 2D environment, enhancing their ability to visualize garment construction, analyze details, and even perform virtual reconstructions. This not only minimized physical handling of sensitive artifacts but also opened new avenues for virtual exhibitions, interactive academic resources, and the broader dissemination of textile heritage in the digital space.

The final cataloguing phase brought together all the research outputs into a comprehensive and user-friendly format. Each blouse was recorded with detailed visuals, historical notes, regional and stylistic classification, construction techniques, and material information. This catalogue served as an accessible archive for scholars, students, designers, and museum visitors alike. It provided a reference point for future exhibitions, comparative studies, or design reinterpretations while also helping safeguard these textiles for generations to come.

The curated blouses within the catalogue ranged from minimalistic cotton wear used for everyday dressing to richly embroidered pieces meant for royal or ceremonial use. Each blouse was representative of a specific region and tradition. This study highlighted the vital role that textile museums played in preserving and promoting India's rich cultural and craft heritage. It underscored the importance of interdisciplinary collaboration among museum professionals, textile experts, digital technologists, and historians to ensure holistic documentation and conservation. However, it also brought attention to the persistent challenges faced by curators such as limited funding, shortage of trained personnel, and outdated archival systems—which needed to be addressed through targeted institutional support and policy-level interventions.

The integration of digital tools like Richpeace into museum practices offered a promising way forward. These technologies enhanced the accuracy, efficiency, and accessibility of documentation, allowing collections to be digitized, shared, and studied globally. They not only supported preservation efforts but also stimulated academic research and inspired designers to engage with traditional aesthetics in meaningful and respectful ways.

Moreover, this research advocated for the inclusion of textile museum studies within academic curricula. There was immense potential for career development in this field, ranging from curation and conservation to digital archiving, research, and design innovation. As interest in cultural heritage continued to grow worldwide, specialized training in textile museum practices could open doors to diverse professional pathways while contributing significantly to the safeguarding of India's textile legacy.

In conclusion, this research successfully documented valuable textile artifacts while simultaneously advocating for a more standardized, technological, and emotionally informed approach to heritage preservation. It added to the growing recognition that garments were not just stitched fabrics—they were vessels of stories, belonging, identity, and history. This work, therefore, became a small but significant step in preserving the intangible cultural fabric of India, ensuring that these narratives continued to inspire both contemporary minds and future generations.

5.9 Recommendations for further research

- Comparative Documentation Techniques of Traditional Garments Across Indian Textile Museums
- Reinterpreting Traditional Blouse Designs for Contemporary Fashion Using Digital Archives
- Evaluating the Role of Emerging Technologies in Textile Heritage Preservation

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Appendix – 1: Permission Letter to Head

To,

Dr. Reena Bhatia

I/c Head, Department of Clothing and Textiles

Textile Art Museum, Department of Clothing and Textiles

Faculty of Family and Community Sciences

The Maharaja Sayajirao University of Baroda

Subject: Request for Permission to give access of Textile Art Museum to Document Traditional Garments for Dissertation Research

Respected Ma'am,

I, Chinar Vashi, am currently pursuing my Master's degree in Clothing and Textiles at The Maharaja Sayajirao University of Baroda. As part of my dissertation titled "Documenting Textile Art Museum Garments: Preserving Heritage Through Digital Cataloguing," I aim to study and document traditional garments housed in the Textile Art Museum of the Department of Clothing and Textiles.

Study Overview:

This research seeks to examine, analyze, and document traditional garments from the museum collection to preserve them for future generations. The documentation will include detailed descriptions of the garments' origin, fabric, construction, ornamentation, and style. In addition to the physical documentation, I will create digital archives of the garments through high-resolution photography and digital pattern-making, reducing the need for frequent handling of the original pieces.

Study Methodology:

The research will involve photographing the garments, recording detailed measurements, and making digital patterns using pattern-making software such as Richpiece. The information will then be compiled into a catalogue that includes detailed descriptions and visual documentation. All processes will be conducted with the utmost care and respect for the conservation of the garments.

Request for Permission:

Through this letter, I kindly request your permission to access and document 10 traditional garments from the Textile Art Museum for my dissertation research. I assure you that all necessary precautions will be taken to handle the garments with care, and the museum's guidelines will be strictly followed.

Timeframe:

In order to carry out this research effectively, I would require access to the museum from 4th November 2024 to 14th November 2024, during the college vacation period, from Monday to Friday, 10 AM to 4 PM. Additionally, after the official reopening of the college, I will continue to visit the museum regularly over the next five months to collect and catalogue the necessary data as part of the documentation process.

Benefits:

This study will provide the museum with a comprehensive catalogue and digital archive of the selected garments, which could serve as a valuable resource for researchers, designers, and textile enthusiasts. Additionally, digitizing these garments will help preserve their integrity, making them accessible for educational purposes without risking physical wear and tear.

Thank you for considering our request. I look forward to receiving your permission and collaborating with the museum to preserve India's rich textile heritage.

Sincerely,
Chinar Vashi
Master's Student, Clothing and Textiles
The Maharaja Sayajirao University of Baroda

Thanking you,

_____

Signature of Ms. Chinar Vashi
Researcher, M.Sc.(F.C.Sc) - II

_____

Signature of Dr. Hemlata Raval
Assistant Professor, Guide

Appendix – 2: Questionnaire for Professionals Working in Textile Museums

1) Name of the Museum

2) Location of the Museum

3) Your Name

4) Contact (Active Phone Number/Email)

5) Can you describe your role at the Textile Museum and your involvement with its textile collection?

6) Years of Experience

- 5 years 5–10 years

- 11–15 years

- 16–20 years

7) More than 20 years

8) Specialization/Expertise (if any)

9) How did you start your career in the field of textile museum?

10) What led you to work specifically with this Museum?

11) Can you share your experience of working with textiles and garments in the museum over the years?

12) Size of the Textile Collection in your museum

13) Less than 100 garments

14) 100-500 garments

15) More than 500 garments

16) Other

17) Types of Textiles in the Collection

- Traditional garments

- Embroidered textiles

- Printed textiles

- Painted textiles

- Large textiles (Rolled/Flat)

- Small textiles (Flat/Rolled)

- Other (Please specify)

18) Storage and Display percentage (proportion of a museum's collection that is on public display versus what is stored behind the scenes.)

19) Condition status of textiles

20) Excellent - Intact and well-preserved with no visible wear or damage.

21) Good - Minimal wear; some slight fading or minor signs of aging.

22) Fair - Visible signs of wear, some small tears or repairs; moderate fading.

23) Poor - Noticeable damage, such as larger tears, fraying, or heavy fading; requires careful handling.

24) Very Poor - Fragile condition with significant deterioration, often with missing pieces; suitable for display only under specific conditions.

25) Restored - Previously damaged but has been repaired or restored to a stable condition.

26) Deteriorating - Actively experiencing degradation or damage; conservation needed.

27) Not Assessed - Condition not currently evaluated.

28) What methods are used for documenting traditional garments in your museum?

- Written descriptions / Documentation sheet

- Photography

- Videography

- Digital Cataloguing Software (Mention Name)

- Other (Please specify)

29) How do you acquire or source garments for the museum's collection?

- Historical Significance - Importance of the garment in representing a historical period or event.

- Cultural Representation - Value in showcasing cultural or regional heritage.

- Condition and Preservation Status - Suitability of the garment's condition for display without risking damage.

- Aesthetic Appeal - Visual appeal or artistic value for engaging the audience.

- Rarity or Uniqueness - Uncommon or one-of-a-kind features that make the garment special.

- Educational Value - Ability to illustrate specific techniques, traditions, or historical narratives.

- Public Interest - Relevance to current exhibitions or topics of popular interest.

- Symbolic or Ceremonial Importance - Representing special rituals, ceremonies, or symbolic meanings.

- Textile Technique or Craftsmanship - Unique craftsmanship, such as intricate weaving, embroidery, or dyeing.

- Suitability for Display Conditions - Ability to withstand lighting, humidity, and display environment.

30) What criteria do you consider when selecting garments to be displayed?

31) What methods do you use to store and preserve garments in the museum's collection?

- Climate-Controlled Storage - Maintaining controlled temperature and humidity levels.

- Acid-Free Storage Boxes - Using acid-free boxes and tissue paper to prevent deterioration.

- Flat Storage - Storing garments flat to reduce stress on fabric and seams.

- Hanging Storage with Padded Hangers - Hanging certain garments with padded supports to maintain shape.

- Protective Covers or Garment Bags - Covering garments with breathable, protective fabric covers.

- Light-Controlled Rooms - Limiting exposure to UV light to prevent fading. Regular

- Condition Checks - Periodic inspections to monitor fabric health and address any damage.

- Insect Prevention and Pest Control - Using pest deterrents and monitoring to avoid infestations.

- Humidity Absorbers or Desiccants - Reducing excess moisture in storage areas.

- Specialized Shelving for Rolled Textiles - Rolling large or fragile textiles and storing on custom shelves.

- Protective Covers or Garment Bags - Covering garments with breathable, protective fabric covers.

- Light-Controlled Rooms - Limiting exposure to UV light to prevent fading.

- Regular Condition Checks - Periodic inspections to monitor fabric health and address any damage.

- Insect Prevention and Pest Control - Using pest deterrents and monitoring to avoid infestations.

- Humidity Absorbers or Desiccants - Reducing excess moisture in storage areas.

- Specialized Shelving for Rolled Textiles - Rolling large or fragile textiles and storing on custom shelves.

32) Do you collaborate with designers, collectors, or donors for sourcing garments? Yes/No

33) Are there any challenges you face in documenting these textiles? Yes/No if yes please specify

34) How do you gather provenance information for garments in the museum's collection (e.g., previous owners, origin)?

35) Is the museum involved in digitizing traditional garments? (whether the museum is actively working on creating digital copies or representations of traditional garments in their collection

36) What tools or software does the museum use for digitizing garments?

37) Do you have any other information to share about the textile collection or the museum's work in preserving traditional garments?

38) How does the museum share its textile documentation efforts with the public or academic researchers?
- Exhibitions
- Publications
- Digital access

39) Does the museum create digital patterns of traditional garments? If so, how is this done?

40) What is the process of cataloguing garments in the museum?

41) What are the key steps involved?

42) What specific information do you collect when cataloguing a garment?

43) How do you gather information on the garments' origins, techniques, and historical context?

44) How do you ensure that the information presented to visitors is both informative and engaging?
45) Do you use specific books, archives, or oral histories for documentation?

46) What impact do you think the museum's garment displays have on visitors' understanding of textiles and culture?

47) How do you ensure that the information presented to visitors is both informative and engaging?

48) Do you use specific books, archives, or oral histories for documentation?

49) What impact do you think the museum's garment displays have on visitors' understanding of textiles and culture?

50) Do you think the museum's exhibits contribute to a greater appreciation of textile heritage?

51) What are some potential career paths for someone interested in working with textile collections in museums?

52) How do you see the future of textile curation evolving with digital technology and new conservation methods?

53) Have there been any recent research projects or exhibitions related to traditional garments?

Appendix – 3: Documentation Sheet (Original)

TEXTILEARTMUSUEM

Department of Clothing and Textiles

Faculty of Family and Community Sciences

Documentation Sheet	
Accession Number	
Title	
Place of origin	
Provenance	
Date of acquisition	
Location in the museum	

Object Descriptions	
Category	
Object Type	
Style	
Date / Time Period	
Materials	

Warp	Weft	Piles	Other Elements

Technique	
Supporting material	

Measurement / Dimension

Length	Width	Height	Diameter

Object reference image/s and Brief Description

Usage and significance	
Motif description	
Credit Line / Donor	
Production	Made by (community)

Fiber, Yarn and Fabric Analysis

Location	Colour	Weave	Material	Fibre type	Ply and Twist	Thread Count Image	Microscopic view	Weave Representative

Seam and Stich Analysis

Condition Report

General Condition
O Poor/unstable   O Fair   O Good
O Appears stable/sound   O Active deterioration noted   O Damage noted   O Fragile/weak
Current support, display, or storage method:

O Mount   O Open display

3-D support

O Non-acidic box   O Drawer

O Frame   O Stretcher   O Padded hanger   O Mannequin

O Glazed   O Open shelf   O Unpadded hanger   O Inside display case

O Fixed to wall   O Acidic box   O Other

Condition:

			O Shedding
			O Silverfish
O Abrasions		O Insect Damage	O Soiled
O Accretions	O Deterioration		
O Adherences	O Disjoined	O Insect active	
O Adhesive residue	O Discoloration	O Loss	O Soot
	O Distorted	O Mold	
O Adhering	O Dirty	O Mildew	O Stains
O Bleeding	O Faded	O Moth	O Stiffness

O Brittle/embrittled	O Flaking	O Odorous	O Unravelling
O Cockled	O Fly speck	O Perspiration stains	O Unidirectional
O Cracks	O Fold	O Powdery	O Weak joined / seam
O Crease	O Fraying	O Rot	O Worn
O Crocking	O Grazed	O Rust stains	O Yellowed
O Cut/Split/Tear	O Holes		

Condition Mapping:

Summary of Condition:

Packing and storage:

Microclimate and Display Conditions:

O Sealed display case	O RH 55% +/-7%
O Lux 50 100 150	O Display time 3 6 12 months
O Temp 22ºC +/- 1 º	O Other

Examination technique:

O Visual	O Photographic	O Microscope

Treatment proposed

References
Keywords
Documented by
Date of Documentation

TEXTILE ART MUSUEM
Department of Clothing and Textiles
Faculty of Family and Community Sciences

Documentation Sheet	
Accession Number	
Title	
Place of origin	
Location in the museum	
Object Descriptions	
Category	
Object Type	
Style	
Ornamentation	
Technique	
Material	
Colour	
Materials	
Field Material	
Supporting Material	
Sleeve Material	
Warp	
Weft	
Other Elements	
Measurements (cm)	
Chest (Round)	
Waist (Round)	
Sleeve Length	
Sleeve Girth	
Shoulder Width	
Full Length	
Armhole Depth (Girth)	
Bicep Level (Girth)	
Waist Darts (Front)	
Back Dart	
Side Seam Darts (Front	
Object reference image/s and Brief Description	

Usage and significance	
Motif description	

Fiber, Yarn and Fabric Analysis

Location	Sleeves	Main body
Weave/ Knit Structure		
Material		
Fibre type		
Ply and Twist		
Weave Notation		
Ends per inch		
Picks per inch		
Thickness		

Construction Analysis

Condition Report

General Condition			
O Poor/unstable	O Fair	• Good	
• Appears stable/sound	O Active deterioration noted	O Damage noted	O Fragile/weak
Current support, display, or storage method:			
O Mount	O Open display	O 3-D support	O Drawer
O Frame	O Stretcher	O Non-acidic box	O Cupboard
O Glazed	O Open shelf	O Padded hanger	O Mannequin
O Fixed to wall	O Acidic box	O Unpadded hanger	O Inside display case
			O Other
Condition			
O Abrasions	O Deterioration	O Insect Damage	O Shedding
O Accretions	O Disjoined	O Insect active	O Silverfish
O Adherences	O Discoloration		O Soiled

O Adhesive residue	O Distorted	O Loss	O Soot
O Adhering	O Dirty	O Mold	O Stains
O Bleeding	O Faded	O Mildew	O Stiffness
O Brittle/embrittled	O Flaking	O Moth	O Unravelling
O Cockled	O Fly speck	O Odorous	O Unidirectional
O Cracks	O Fold	O Perspiration stains	O Weak joined / seam
O Crease	O Fraying	O Powdery	O Worn
O Crocking	O Grazed	O Rot	O Yellowed
O Cut/Split/Tear	O Holes	O Rust stains	

Condition Mapping

Summary of Condition

Suggested Packing and storage:

O
Examination technique:
O Visual   O Photographic   O Pickglass
Treatment proposed
References
Keywords
Documented by: Chinar Vashi
Date of Documentation: November 4, 2024

Appendix – 5: Pattern draft drawn on 1/4th scale using Richpiece software