

Dolly Kumar*

Associate Professor, Department of Leather Design, National Institute of Fashion Technology, New Delhi, India

Abstract: Indian subcontinent is blessed with varied cultural heritage and dimensions. From the brocades of Banaras to the ikat of Andhra Pradesh, each complex technique narrates history, tradition, culture, history, and legacy preserved in the hands of the master craftsmen. However, we are going through paramount historical change dominated by digitization and technology. It is an inevitable mega-trend that has touched upon every aspect of social life building a different concept and model of social interaction. Likewise, an increasing consensus indicates the need to reconfigure traditional social and cultural structures. In the light of the information and communication technology (ICT), our tangible and intangible material culture entails digital acquisition, storage, preservation, and reinterpretation to acclimatize with the contemporary times. One such technique that requires substantial consideration for conservation is rafugari - a fine invisible darning technique used to repair and restore damage on age-old Pashmina/Kani shawls of Kashmir. Passed down from generation to generation, the dexterity of the artisan remains varied with very few masters of the trade. It is noteworthy that extremely skilled rafu work is extremely difficult to detect. Due to the availability of limited resources, it is important to document the secrets of the trade to preserve the technique for the next generation. My paper examines the role of ICT and intangible heritage culture to preserve the technique and establish its relevance in modern times as a sustainable practice.

Keywords: Craft skill, Digitization, Intangible cultural heritage, ICT, *Rafugari*.

1. Introduction

Mending of fabric through darning stitch rafugari is practiced in Najibabad (Bijnor, Uttar Pradesh, India) by Muslim community. Rafugari, is a fine invisible darning technique to repair and restore damage, and extends the life of finest age-old Jamawar/Pashmina/Kani shawls of Kashmir. Passed down from generations to generations, the dexterity of the artisan remains varied with very few masters of the trade. It is noteworthy that extremely skilled *rafu* work is extremely difficult to detect. However, the irony is the livelihood of the artisans and survival of the skill in the modern times challenged by fast-fashion. The beauty and perfection of this skill lies in its invisibility that merges with the entire shawl so fine that the damage becomes undetectable contributing to the extension in the life-span of the shawl. This parallelly corresponds to the exercise of sustainability; these menders have been practicing for years now. Unfortunately, Rafugari is a languishing technique thriving for acknowledgement and sustenance. Due to the availability of limited resource on this significant technique, it is prominently important to document the secrets of the trade to preserve this sustainable technique for the next generation.

2. Literature Review

A. History and Origin of Rafugari

The form of needle-weaving darning techniques is known by the local name of *Rafu* (to darn) in India practiced by professional men in the region of *Najibabad*. It is the art that was once much sought after as people who valued their heirloom shawl or a precious new garment looked for reparation.

Said to be synonymous with the repair of intricately designed *Jamawars/Pashmina/Kani* shawls and robes of *Kashmir*, these shawls, along with Islam came to India from Central Asia and have since been refined by local cultural mores through a process of appropriation and acculturation, pushing the technique to its creative limit (Bhowmick, 2018)

The *rafugars* have been associated with the *Kani* shawls of Kashmir from the nineteenth century. Referred to as needle-workers, they weren't always performing the mending work. During the nineteenth century the weaving of *Kashmiri* shawls was at its peak along with high demand from Europe. A classic *Kani* shawl would take two men and at least six to nine months to weave. In order to meet the demands of the European market and quicken the process of weaving, a single shawl was woven on as many as eight different looms and joined by the expert skill of the *rafugar*. Worn or damaged shawls were also mended by the *rafugars* as people were reluctant to junk these costly and beautiful textiles (Janet Rizvi, 2009, p. 74).

B. Significance of the Craft in Contemporary Era

The history of darning is as old as cloth itself, arising through the evolution of the woven fabric as mentioned by Gopika Nath (Nath, 2017). Prior to the invention of the heddle in Neolithic times, early weavers faced problems regarding the insertion of weft into a warp to form the cloth and, the simplest way of putting the weft was to 'darn' it in (Nath et al., 2017). However, during the modern times darning is used to mend damages like holes, tears in the fabric. Invisible mending, in fact, is a

^{*}Corresponding author: dolly.kumar@nift.ac.in

specialized work that requires knowledge of fabric, skill, patience, passion and long working hours.

In the era of throw-away fast-fashion where modern consumers are actively engaged in the quick disposal of clothes alternatively substituted with new ones, this traditional mending technique averts the early disposal of heritage textile by means of invisible repair, subsequently contributing to the need of the hour– sustainability. A single cloth averted disposal saves carbon footprint, water consumption and collection of the hefty landfills filled with clothes and other garbage. Thus, as a technique that contributes to sustainability, it become extremely relevant to preserve the technique through digitalization by means of Information and Communication Technology (ICT).

3. Intangible Cultural Heritage and Rafugari

There is a paradigm shift in the preservation of cultural heritage by means of digitization. As stated by Lupton, in response to the new technologies and their impact on selfhood and society, a sub-discipline of sociology has emerged in recent years, now often referred to as 'digital sociology' (Lupton, 2013). There is a wider scope of preservation of the complex technique of *rafugari* within the digital realm of sociology.

The symbiosis between ICT and Social Sciences & Humanities are materialized through new initiatives driven by technological advancements. The digital paradigm is addressed through Intangible cultural heritage (ICH). As mentioned by Danilo, ICH is the part of cultural heritage that includes "the practices, representations, expressions, knowledge, skills – as well as the instruments, objects, artefacts and cultural spaces associated therewith" (Danilo Giglitto, 2019). Internet and advancement in digital technologies have greatly benefitted the facilitation of the Intangible cultural heritage (ICH).

As a part of the concept of 'cultural heritage' by UNESCO that integrates collective perception and the establishment of cultural networks to expand ethnographic realities, historical sites, collective memory, and cultural routes (Cristina Portalés, 2018), there is an opportunity for the traditional cultures to be documented and preserved in a digital manner in the modern times.

Thus, Information and Communication Technologies (ICTs) can create a platform for the digital acquisition and conservation of the skill of *rafugari* by preserving the detailed techniques and complex stitches enabling the next generation to have access to this valuable craft. Thus, in the advent of the digital world, digital sociology and ICT provides new opportunities for sustaining the kinds of data we might want to preserve.

4. Digital Environment and Rafugari

There is an urgent need for digitizing the technique of invisible darning work of *rafugari* to create awareness among consumers and preserve the complex skill. A collaborative effort is required among the designers, researchers with the artisans to understand and transfer the best practices of the trade into the online environment and investigate the possibilities of communicating the practices with the public.

As mentioned by Goran Zlodi "One of the approaches that cultural heritage institutions started to explore in order to involve the general public in their activities on the Web is crowdsourcing - taking a job traditionally performed by a designated agent (usually an employee) and outsourcing it to an undefined community in the form of an open call" (Zlodi, 2015.). There is a wide potential of engaging community users by the means of crowdsourcing. Using different Web 2.0 tools, such as blogs or social networks provide huge possibility of extending and enhancing communication with the users to create awareness and mobility of the craft among new generation.

However, the concept of 'niche sourcing' may also be applicable in the case of digitization of *rafugari*. As referred by Zlodi (Zlodi et al., 2015) about "niche sourcing", a "specific type of crowdsourcing where complex tasks are distributed amongst a small crowd of amateur experts rather than the "faceless" crowd" (Zlodi et al., 2015.). Thus, inviting participation from interested and engaged members of the public shall facilitate in establishing the relevance of *rafugari* in the modern times. Niche sourcing shall solve not only different complex knowledge-intensive tasks but also provide quality results by involving amateur experts and interested participants.

The digitization of rafugari and niche sourcing will primarily engage amateur experts to contribute, collaborate and co-create that will solve the purpose of preserving the craft and provide livelihood possibility to the *rafugars* in a long run by generating business opportunities. The following methods may be useful to provide a framework for strategy development for the rafugars and their skills. As stated by Zlodi (Zlodi, el al 2015), "the infographic is constantly revised, with the latest version reflecting the third generation of the taxonomy, categorizing the field in six different areas - crowdfunding, crowd creativity, distributed knowledge, cloud labor, open innovation, application of tools. A similar taxonomy may be applied to rafugari to gain visibility, invite participation and create awareness. Rafugari has immense potential to be digitized and uploaded on Web 2.0 to fascinate potential people for learning the skill and eventually preserve by contributing, collaborating and co-creating.

5. Barriers to Digitization of Rafugari

Digital self-documentation of *rafugari* is extremely relevant in the era of throw-away fashion. It is a languishing craft seeking solutions for livelihood, visibility and massacceptance. *Rafugari* is an intangible knowledge possessing the age-old skill of needle work in the hands of dwindling master craftsmen. If not documented within time, this legacy of traditional knowledge shall perish, with no one to carry it forward for the next generation.

However, digital documentation of the skill envisions challenges and barriers. While the documentation may appear as a cumbersome task to digitize each complex stitch technique of darning, method involved, along with type of damage to be repaired, a greater challenge posed is the interaction between the end-user with the digital resource. As quoted by Giglitto, "Academics from a range of disciplines, including social sciences and human-computer interaction (HCI), are working to identify and solve a variety of issues that affects to different extent many community-led ICH digital projects (Danilo Giglitto, 2019)".

Some examples of these issues are a lack of assessment of users' needs and expectations; digital illiteracy barriers, an only apparent or partial engagement, the prevalence of individual agendas, and the creation of new divisions within a community. (Danilo,et al 2019).

A collaborative practice between craftsmen, users and design practitioners plays a pivotal role to overcome the barriers posed in digitization. User-centric interface, primarily to create an analogue between the craft and the user can illuminate the ways for preservation of the craft along with virtual visibility. This invisible technique in itself is a restoration process to heal the damaged fabrics but in the modern times, this craft only longs for restoration.

The digital translation in itself is a challenge as the time taken to restore a damaged shawl, matching the threads with the tapestry design takes 6-8 months depending on the complexity and condition and scale of the damage. Each restoration through this needlework requires a high level of precision, expert craftsmanship and sharp eye sight to mend the damage and blend invisibly with the rest of the shawl. Thus, various aspects that needs to be viewed for digitization to overcome barriers from the perspective of preservation are:

- Collection of technical information stitch types, thread, types of damage, tools etc.
- Collection of the data of the master craftsmen practicing the craft.
- Data of the shawls restored through *rafugari*.
- Video documentation of the craft in process.
- Microscopic views of the damage and the restoration activity performed.

The second lever barrier that needs to addressed is the interaction between the end user and the digital resource are-

- Creation of a user- interface for ease of accessibility by the end user.
- Interactive tools for preservation, dissemination and user engagement.
- Creation of an intelligent computational system to improve the understanding of the craft among user and design practitioners.

Thus, task of digitization of *rafugari* may appear to be vast with the various barrier posed, however, a prime responsibility lies with the conservators and design practitioners to preserve this magical skill.

6. Review of SILKNOW Project as a Parallel Example

A parallel example that may be used to understand the digitization of *rafugari* is the SILKNOW project in Europe that aims to improve the understanding, conservation and dissemination of European silk heritage from the fifteenth to the nineteenth century.

The project aims to preserve the historical silk weaving

technique in the digital era. Next-generation computing research is been used to digitize the weaving technique and preserves the tangible and intangible heritage associated with silk. Based on records from existing catalogues, it aims to produce digital modelling of weaving techniques (a "Virtual Loom"), through automatic visual recognition, advanced spatio-temporal visualization, multilingual and semantically enriched access to digital data (http://silknow.org/?page_id=9, n.d.). The virtual loom enables the cloning of the technique involved in silk weaving to allow users to decrypt the complexity, artistic and artisanal values of ancient silk textiles and preserve the weaving for future generation.

SILKNOW is made possible through the close cooperation of a multidisciplinary team, including areas as ICT, text analytics, image processing, semantics, big data, 3D printing, art history, terminology, textile fabrication and conservation. It is based on digital information about historical silk textiles provided by a number of European museums and collections

From fabric conservation to big data, the entire project aims to digitize the weaving technique and preserve the skill of traditional. Thus, a similar model may be applied towards the documentation of the technique of *rafugari* that will not only preserve the skill but also improve the global visibility of this exquisite, complex technique.

7. Conclusion

The technique of *rafugari* is an absolutely amazing skill that somehow was ignored for generations due to its invisibility. However, the worth of the craft lies in its secret of the practice that establishes the remarkable skill of the craftsmen to blend the damage on the fabric making the damage invisible. On one side it proves that the skill has magical essence, on the other hand it bears the concept of sustainability as it extends the life of the fabric. Either way, the need of the time is to preserve the craft by means of digitization and bestowing social significance to the craft and the craftsmen by digitization and making it a part of big data. The review paper establishes the significance of *rafugari* and the ways that can be applied to preserve the craft practice.

References

- Bhowmick, A. (2018, April 19). Journey of a shawl. Retrieved from www.thestatesman.com:<u>https://www.thestatesman.com/features/journey</u> -of-a-shawl-1502624308.html
- [2] Cristina Portalés, J. M. (2018). Digital Cultural Heritage. MDPI, 2-5.
- [3] Danilo Giglitto, S. L. (2019). A Participatory Approach for Digital Documentation of Egyptian Bedouins Intangible Cultural Heritage. *Interaction Design and Architecture(s) Journal*, 31-49.
- [4] http://silknow.org/?page_id=9. (n.d.). Retrieved from www.silknow.eu: http://silknow.eu/
- [5] Janet Rizvi, M. A. (2009). Pashmina, Kashmir shawl and beyond. In M. A. Janet Rizvi, *Pashmina, Kashmir shawl and beyond* (p. 74). Mumbai: Marg Publication.
- [6] Lupton, D. (2013). Digital Sociology: Beyond the Digital to the Sociological. *The Australian Sociological Association 2013 Conference*. Osbaldiston: TASA.
- [7] Nath, G. (2017, October 15). Delving into darning: Healing the damaged cloth. Retrieved from DECCAN HERALD 5: <u>http://gopikanath.co.in/wpcontent/uploads/2018/05/Darning.pdf</u>
- [8] Zlodi, G. (2015.). Crowdsourcing Digital Cultural Heritage. INFuture2013: "Information Governance", 199-207.