



Kantha Embroidery as a Model of Sustainable Fashion and Women's Empowerment: Evidence from West Bengal

Rajdev Nayak¹, Dr Suniti Sood ²,

¹Research Scholar, Associate Professor²,

¹Department of Fine Arts, Amity University, Gurugram, Haryana, India

²Amity School of Fashion Design & Technology, Amity University, Gurugram, Haryana, India

Corresponding author: raajdev29@gmail.com

Abstract

Kantha embroidery, one of India's most enduring indigenous textile traditions, has evolved from a domestic recycling practice into a significant model of sustainable fashion and women-led socio-economic empowerment. Originating in West Bengal, Kantha was historically created by rural women through the repurposing of worn saris and dhotis using simple running stitches. This study examines the transformation of Kantha embroidery from a household craft to its contemporary role within sustainable and circular fashion systems. The research adopts a mixed-method approach, combining a quantitative survey of 424 women artisans across West Bengal with qualitative interviews involving artisans, designers, cooperative members, and representatives of non-governmental and government-supported initiatives, including the Rural Craft and Cultural Hubs (RCCH) project. The findings reveal substantial improvements in women's economic conditions, financial autonomy, social mobility, and participation in household and community decision-making after engagement in Kantha-based livelihoods. In addition to its socio-economic impact, the study highlights Kantha's strong alignment with sustainable fashion principles through the extensive use of recycled textiles, natural materials, hand-stitching techniques, and low-carbon production processes. These practices contribute to textile waste reduction and support several United Nations Sustainable Development Goals, particularly gender equality, responsible consumption, and climate action. The study concludes that reinforcing indigenous crafts such as Kantha not only safeguards intangible cultural heritage but also offers a viable and inclusive pathway for sustainable fashion and rural women's empowerment.

Keywords: *Kantha Embroidery; Sustainable Fashion; Women's Empowerment; Indigenous Textiles; Circular Fashion; Recycled Textiles; West Bengal*

Introduction

The embroidery traditions represent the nation's many cultures, histories, and regional identities manifested through distinct stitching techniques. Among the several traditions, Kantha needlework, done in Bengal, stands out as one of the most ancient, deeply symbolic, and culturally significant art forms. Kantha employs fundamental running threads to create intricate designs, encompassing geometric patterns as well as motifs like peacocks, fish, and lotuses that originated as a domestic craft [1, 2].

Symbolic and spiritual significance often imbue these designs. Historically, women commonly transformed leftover saris and dhotis into quilts and various household items [3]. They integrated their aspirations and inventiveness into every thread and the Kantha is an embroidered method that, unlike modern machine-based embroidery, relies on artisanal expression and has been transmitted through generations of female artisans. It serves as a mode for identity, narrative, and resilience that illustrates its cultural importance goes beyond mere decoration. Currently, Kantha functions not just as a symbol of Bengal's cultural heritage but also as a vehicle for economic development for rural women, while inspiring the production of environmentally sustainable garments. It aligns with international initiatives that aimed at attaining the ecological sustainability, ethical fashion, and women-led socio-economic development through the utilization of repurposed textiles and the adoption of slow fashion concepts [4].

Evolution of Kantha Embroidery

Kantha embroidery is among the oldest textile traditions of India, with origins traced back to the first and second centuries A.D. [6]. Folk art emerges from material circumstances and everyday requirements. The traditional quilt of Bengal, known as Kantha, is a confluence of various elements that define its culture. Besides its use, the Kantha represents a historic art form, especially linked to women. The earliest references link Kantha to Lord Buddha and his disciples, who were said to have used old patchwork quilts, reflecting its deep spiritual and cultural associations [6]. This craft was mostly inspired by everyday events. Insulation was necessary during moderate winter



conditions. The Kantha has emerged from the necessity for warmth, since extended periods of rain provided Bengali women the chance to stitch its layers together [6].

Kantha was developed from tattered saris, lungis, or dhotis that had deteriorated due to extensive laundering. For decades, women in rural West Bengal have relied on Kantha embroidery. Thus, this stitching functioned as their mode of communication for centuries. Women's labour also reflects Bangladesh's, East Pakistan's, and Bengal's division. Kantha embroidery is an old method of transforming garments into rugs, comforters, and dish covers embellished with embroidery. Rural women in West Bengal and Orissa primarily execute Kantha, a distinguished and well-known Indian embroidery technique. Traditional dowry practices, passed down from mother to daughter, involve Kantha embroidery methods [7]. For centuries, rural West Bengali women have practiced Kantha stitching, solidifying its status as a prominent trend in Indian fashion and home design and the most remarkable feature of the Kantha craftsmanship is its ability to serve as an ornament without any adornment.

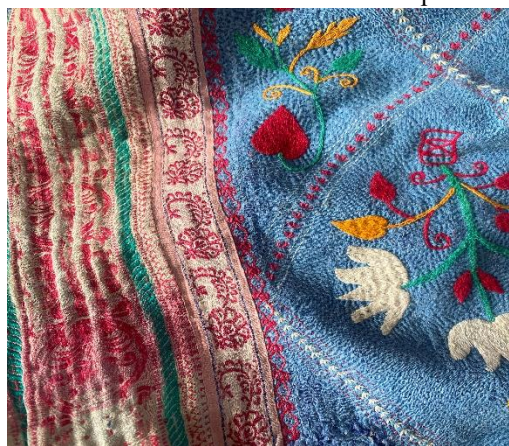


Figure 1: Handmade Kantha Embroidery

Source: Author's field visit, Nanoor, Birbhum (2025)

Bengali women used old materials to make common things and added patterns from their rich culture to them using complicated variants of the simple running stitch. The innovation comes from having different ideas and actions and with that a full-length Kantha used to need 5 to 7 saris [8]. There are a lot of women involved in this procedure. Make sure there are no folds or wrinkles on the top or bottom layers of the material. Using coloured thread from antique saris, we made life stories on the quilt using a simple running stitch as the lotus is the most common Kantha motif.

Traditional Indian hand sewing is a big part of its culture. Women in the country needed kantha-embroidered quilts to keep their kids warm in the winter. As India's level of living rose, many designers added a modern touch to Kantha stitching before that were cheap were home goods like mirror coverings and coverlets. Kantha stitching created a big market for people of all classes, which gave women jobs. Women business owners are very important for the long-term health of the world's economy and society. Women are now more willing to take on tasks that were previously performed by men, and they have shown that they are the most important people to the well-being of the economy. Entrepreneurship refers to starting or reviving a business to take advantage of new opportunities. Women can support their families and have excellent careers in craftsmanship. Women artisans have demonstrated equal creativity and ability in sustaining Kantha, making gender inclusivity an important factor in the development of this traditional craft.[9]

Data Analysis and Interpretation

Methodology

We used both quantitative and qualitative data to study the effects of Kantha embroidery on women's empowerment and sustainable fashion. We collected data through distributing questionnaire 424 women who worked with Kantha in West Bengal. We also got qualitative information by discussing to 20 people in depth, including fashion designers, NGO workers, cooperative leaders, and artisans, thereafter we also used secondary data from SEWA and Sasha reports, as well as academic papers and periodicals covering sustainable fashion, made the research better.



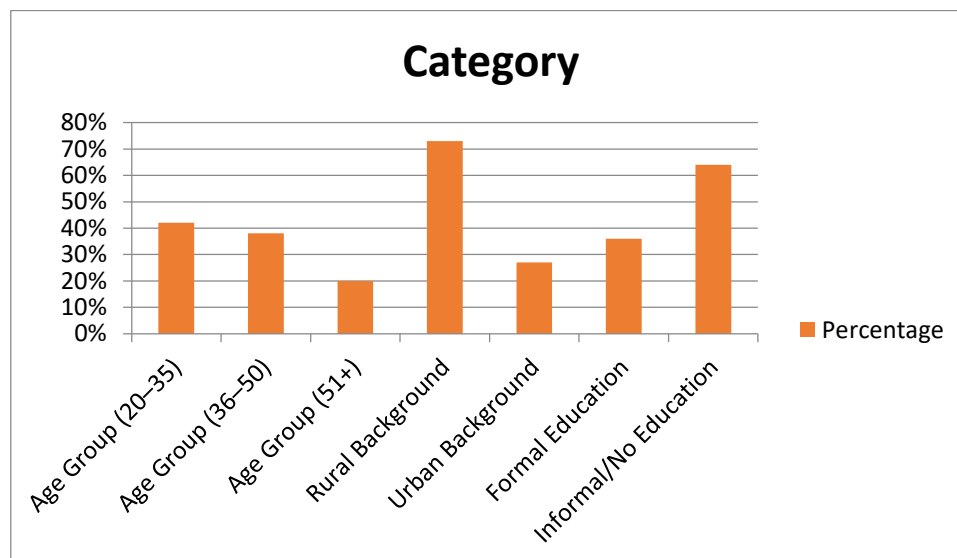
In this section, we have analysed the data collected through survey in West Bengal from the women who is working for Kantha and its development in India. We have firstly analysed the demographic details of the respondents and then we focused on analysis of the data that signifies the results.

Demographic Details

Table 1: Demographic Profile of Respondents (N=424)

Category	Percentage
Age Group (20–35)	42%
Age Group (36–50)	38%
Age Group (51+)	20%
Rural Background	73%
Urban Background	27%
Formal Education	36%
Informal/No Education	64%

Most of the Kantha craftspeople that were checked are from rural areas and have little schooling. Twenty-seven percent live in cities, while seventy-three percent live in the country. Twenty percent of artisans are 51 years old or older, 38% are 36 to 50 years old, and 42% are 20 to 35 years old. 64% of people don't have formal schooling, and 36% do; thus, it's clear that informal learning is better for getting an education.



Graph 1: Category of Respondents

Kantha is a traditional craft that is passed down through generations in communities instead of via official lessons.

Results of Analysis

In this section, we have analysed the changes how economic conditions are being empowered through Kantha work along with social empowerment metrics, fashion integration and challenges they faced.



Table 2: Economic Empowerment through Kantha Work

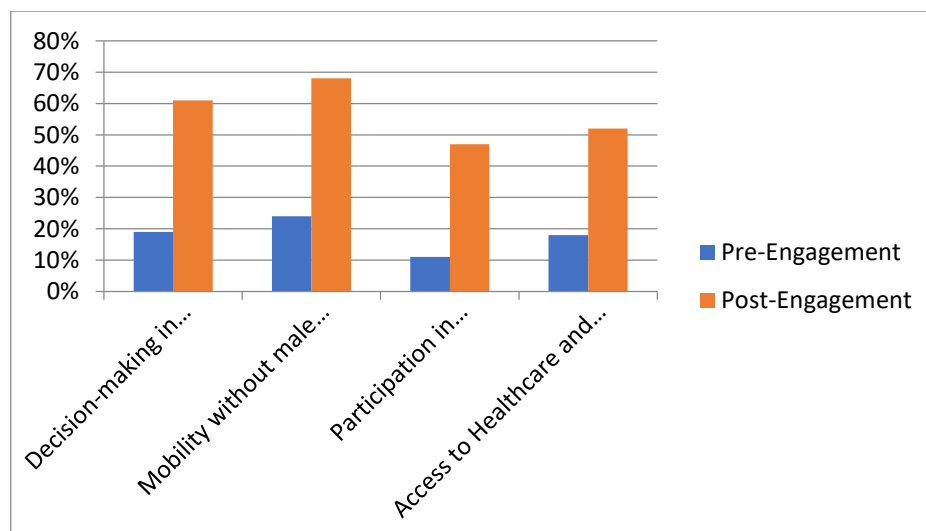
Indicator	Before Joining	After Joining
Average Monthly Income	₹1,200	₹4,500
Financial Contribution to Household	28%	72%
Ownership of Bank Account	21%	86%
Access to Microcredit Schemes	12%	49%

After they started doing Kantha labour, the average income of the craftsmen gone from ₹1,200 to ₹4,500, also, their financial contributions to the household went up from 28% to 72%, with their ownership of bank accounts went up from 21% to 86%, and their access to microcredit went up from 12% to 49%. These results are clear proof that these artists have gained a lot of economic power.

Table 3: Social Empowerment Metrics

Aspect	Pre-Engagement	Post-Engagement
Decision-making in household	19%	61%
Mobility without male supervision	24%	68%
Participation in Community Meetings	11%	47%
Access to Healthcare and Awareness Programs	18%	52%

The significant advances have been observed in several empowerment metrics that indicates how Kantha embroidery has changed the society and level of women. The number of women who made decisions for their families rose from 19% to 61%, while the percentage of women who could walk around on their own without a man watching them rose from 24% to 68%, it shows a significant growth in women empowerment with Kantha. The number of respondents who went to community meetings went up from 11% to 47%, and the number of respondents who could get healthcare and awareness programs went up from 18% to 52% that shows a significant growth of women empowerment through Kantha embroidery.



Graph 2: Social Empowerment – Pre and Post Engagement

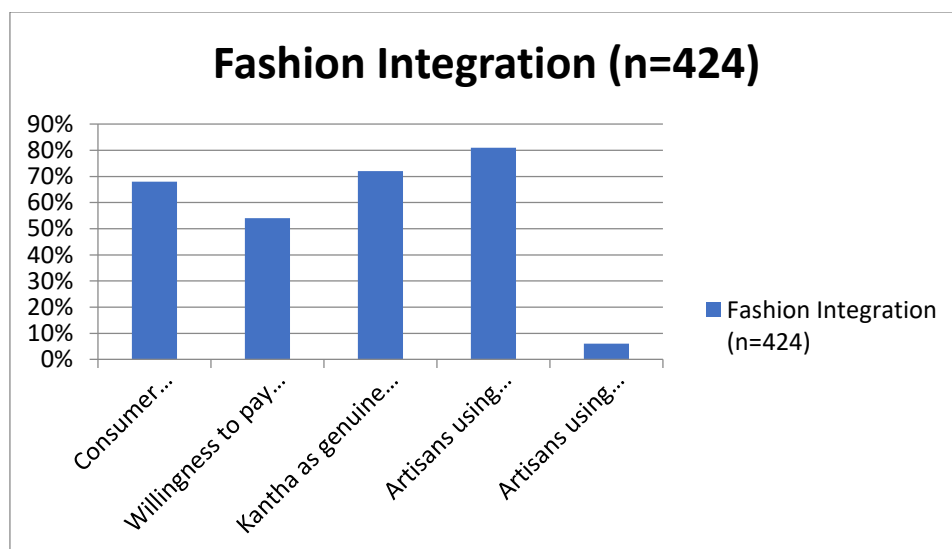
These changes as shown in graph 1 show Kantha work can help people become more socially independent and confident.



Table 4: Sustainable Fashion Integration

Aspects	Fashion Integration (n=424)
Consumer Preference for Kantha (Environmental Benefits)	68%
Willingness to pay premium for recycled/artisanal garments	54%
Kantha as genuine representation of Indian Art (Consumer Perception)	72%
Artisans using recycled cotton & Silk	81%
Artisans using synthetic fibres	6%
Reduction in Carbon impact (per 100 garments)	~30%
Textile Waste Repurposed by Each Artisan Annually	12-15 Kg

A survey of 424 urban consumers indicates a significant need for sustainable fashion rooted in tradition. 68 % of participants expressed a preference for wearing garments produced from Kantha due to its environmental benefits. 54 % indicated a willingness to pay a premium for garments constructed from recycled and artisanal materials. Furthermore, 72% of participants regarded Kantha stitching as a genuine representation of Indian art while in manufacture, 81% of artisans reported using recycled cotton and silk, while only 6% indicated using synthetic fibres.



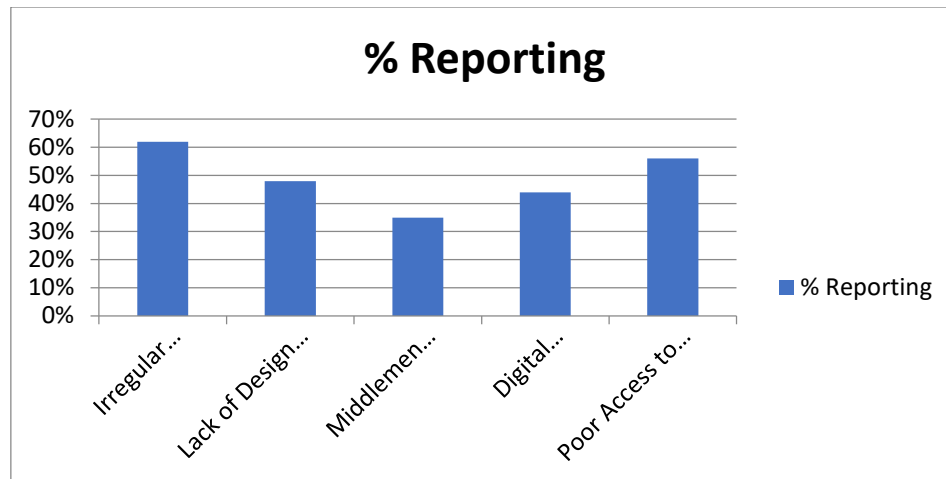
It demonstrates the craft's dedication to environmental sustainability and each artisan repurposed between 12 and 15 kilograms of textile waste annually that result in a reduction in the carbon impact of every hundred garments by approximately 30%. This achievement illustrates the significance of Kantha in promoting low-impact and circular fashion.

Table 5: Challenges Identified

Issue	% Reporting
Irregular Orders/Seasonal Demand	62%
Lack of Design Innovation Training	48%
Middlemen Exploitation	35%
Digital Marketing Inaccessibility	44%
Poor Access to Global Markets	56%



Kantha artisans in West Bengal face numerous challenges that affect their ability to perform well. 62 % of those who answered said that inconsistent orders and seasonal demand make revenue unstable. We also observed that about 48% said that not getting enough training in the design & innovation made it harder for them to keep up with the market developments. Middlemen exploited 35 % of the respondents, while 44 % lacked digital marketing tools, thereafter we also observed that 56% of artists said they didn't have enough access to the worldwide market, which made it harder for them to get recognition and fair pay.



Graph 3: Challenges to Kantha

Middlemen and poor access to global market are critical factors that affect women from Kantha industry more.

Challenges in the Kantha Embroidery Sector

Despite the growing recognition of Kantha embroidery as a tool for women's empowerment and sustainable fashion, the sector continues to face several structural and socio-economic challenges that limit its long-term sustainability. One of the most significant challenges reported by Kantha artisans is irregular income, largely caused by seasonal demand, fluctuating market access, and dependence on intermediaries. The study also reveals a lack of design innovation, which restricts artisans' ability to align their products with evolving consumer preferences and contemporary fashion trends. The continued dominance of middlemen significantly reduces artisans' profit margins and limits their direct engagement with national and international markets. Furthermore, limited digital literacy and inadequate access to digital marketing platforms hinder artisans from effectively promoting their products in the global marketplace. Another critical issue identified is poor access to global markets, resulting from weak branding strategies, insufficient infrastructure, and limited institutional support. Collectively, these challenges constrain the economic independence of artisans and reduce the overall growth potential of the Kantha embroidery sector. Addressing these challenges through targeted design interventions, skill development programmes, digital training, and supportive policy frameworks is essential for ensuring the sustainable integration of Kantha embroidery into the contemporary fashion industry.

Findings And Conclusion

Findings

Kantha stitching gives women a huge support to enhance their lives in rural areas and also helps keep ancient crafts alive. With doing Kantha's job which is directly linked to gaining economic and social power that leads to women making more money, having more freedom, and being more involved in their communities to enhance their presence in society. Also, the process fits with the ideas of circular fashion by using old clothes to make new ones and making things with little carbon emissions. To make it more effective, it is important to develop skills, make it easier for people to enter the market, and pass laws that help.

This research concludes that Kantha embroidery is an important instrument for women's empowerment and sustainable development, contributing significantly to their value enhancement in society. The study further concludes that Kantha work enables women to increase their income, achieve greater financial independence, improve social mobility, and participate more actively in decision-making processes. Kantha in West Bengal is an integral part of the circular fashion sector due to its reliance on upcycled textiles and traditional handcraft practices. As a form of low-carbon manufacturing, Kantha embroidery aligns with circular fashion principles by utilising recycled textiles and reducing waste. Therefore, enhancing its adoption and market accessibility is essential to maximise its sustainable impact.

To fully realise this potential, it is necessary to address challenges such as unpredictable demand, limited market access, and a lack of design innovation expertise. Hence, revitalising Kantha needlework and promoting it within contemporary fashion systems not only helps preserve cultural traditions but also contributes to building a more sustainable and inclusive future.

Acknowledgment

The author gratefully acknowledges Dr. Suniti Sood, Associate Professor, Amity School of Fashion Design & Technology Department, Amity University, Gurugram, Haryana, for her valuable academic guidance, constructive feedback, and scholarly insights that contributed meaningfully to the development of this research. The author also acknowledges Amity University Haryana for providing the necessary academic resources and a supportive research environment for conducting this study. Special appreciation is extended to the Kantha artisans of West Bengal, particularly the "Kantha Didi" from the Nanoor district, Birbhum, West Bengal, whose lived experiences and insights shared during interviews enriched the research with authenticity and depth. The author further acknowledges the cooperation and support of fashion designers, NGO representatives, government officials, and other individuals who contributed directly or indirectly to the successful completion of this research.

References

1. "Kantha Embroidery." Bharatonline, www.bharatonline.com/west-bengal/arts-and-crafts/kantha-embroidery.html. Accessed 10 July 2025.
2. Beth, N. *Different Types of Fabric Paint*. www.fabricpainting.com/resume.html. Accessed 14 May 2025.
3. Maulik, S. R., and K. Agarwal. "Painting on Handloom Cotton Fabric with Colourants Extracted from Natural Sources." *Indian Journal of Traditional Knowledge*, vol. 13, no. 3, 2014, pp. 589–595.
4. Dashora, R., and A. Sharma. "Tribal Women Entrepreneurs." *Social Welfare*, vol. 50, no. 2, 2003, p. 15.
5. Pandya, D. A., and L. K. Dholakia. "Historical Overview of Kutch Embroideries." *Indian Journal of Traditional Knowledge*, vol. 12, no. 3, 2013, pp. 524–529.
6. Agrawal, R., and M. Sharan. "Textile Waste: Resource for Social and Economic Upliftment of Women." *Indian Journal of Technical Education*, 2016, pp. 48–54.
7. Sharma, P. "Women Entrepreneurship Development in India." *Global Journal of Management and Business Studies*, vol. 3, no. 3, 2013, pp. 371–376.
8. Chakrabarti, A. *Kantha: The Traditional Art of Women in Bengal*. Arts India Publication, 1996.
9. Bulsara, Hemant Kumar P., and J. C. Bulsara. "Women Entrepreneurship and Innovation in India: An Exploratory Study." *International Journal of Innovation*, vol. 2, no. 1, 2014, pp. 32–44.
10. Wiley Online Library. (2024). Sustainable craft culture: Socio-cultural drivers and economic impacts. Retrieved from <https://onlinelibrary.wiley.com/doi/full/10.1002/sd.3282>
11. Rural Craft & Cultural Hubs (RCCH). (n.d.). *RCCH – Portal for Artisans & Weavers of West Bengal*. Retrieved from <https://artisan.wb.gov.in/portal/about/rcch.html>
12. Marist's The Quilter. (2020, September 3). On Kantha stitching and cultural appropriation. Retrieved from <https://maristthequilter.wordpress.com/2020/09/03/on-kantha-stitching-and-cultural-appropriation/>
13. Vogue Business. (2021, January 15). Learning from India's ancient take on upcycling. Retrieved from <https://www.voguebusiness.com/sustainability/learning-from-indias-ancient-take-on-upcycling>
14. Biswas, S., & Roy, P. (2011). Opportunities and constraints of the Kantha-stitch craftswomen in Santiniketan: A value chain analysis. *Journal of Social Work and Social Development*, 2(1), 1–16. https://www.academia.edu/7637451/Opportunities_and_Constraints_of_the_Kantha_stitch_craftswomen_in_Santiniketan_a_value_chain_analysis
15. Nayak, Rajdev. *Handmade Kantha Embroidery*. 2025. Photograph. Field visit to Nanoor, Birbhum District, West Bengal.

