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Research on the Current State of Transmission and Innovative Development Pathways of Huaxi Miao Embroidery

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Abstract: As a nationally recognized item of intangible cultural heritage, Huaxi Miao embroidery embodies distinctive aesthetic values and profound cultural significance. Its safeguarding, transmission, and innovative development are of considerable importance for sustaining cultural identity and promoting ethnic development. Existing studies have predominantly focused on embroidery patterns, techniques, and other intrinsic features, paying insufficient attention to the critical role of public participation in safeguarding intangible cultural heritage. Drawing on in-depth interviews and theoretical analysis, this study examines the challenges facing the transmission of Huaxi Miao embroidery. These include the ageing of practitioners, a pronounced generational gap, and inadequate financial support; discrepancies between cultural value and market pricing, alongside constraints on sales channels; increasingly formalized transmission practices and superficial participatory experiences; and a growing divide between tradition and modernity in cultural identification. In response, this study proposes several innovative pathways: establishing a diversified transmission system involving universities, heritage practitioners, and communities; developing more comprehensive market-oriented strategies; leveraging technological innovation to transform approaches to transmission and dissemination; and integrating Huaxi Miao embroidery into the broader regional cultural ecology through holistic safeguarding. These proposals aim to promote the sustainable development of Huaxi Miao embroidery and offer insights for the safeguarding and transmission of other forms of intangible cultural heritage.

Keywords: Huaxi Miao embroidery; Current state of transmission; Development pathways

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1. Introduction

Huaxi Miao embroidery was included in the first batch of China's National Representative List of Intangible Cultural Heritage in 2006 and in the first batch of the National Catalogue of Traditional Crafts for Revitalization in 2018 [1–2]. Huaxi Miao embroidery is not only an important component of the outstanding

traditional culture of the Miao people but also an integral part of China's fine traditional culture. It embodies distinctive aesthetic values while carrying rich historical and cultural meanings.

An important task today is to explore how the safeguarding, transmission, and utilization of Huaxi Miao embroidery can be effectively integrated, thereby promoting its creative transformation and innovative development. This involves highlighting the contemporary significance of Huaxi Miao embroidery, enriching the cultural market through embroidery products, fostering a new generation of skilled practitioners, and continuously enhancing its public visibility. Ultimately, these efforts should help cultivate shared values and cultural identification among Miao communities and the wider Chinese nation.

A review of existing scholarship reveals that research on Miao embroidery, including Huaxi Miao embroidery, has largely concentrated on its patterns and designs, stitching techniques and craftsmanship, cultural transmission, contemporary applications, and technology-enabled development [3–17]. A search of the China National Knowledge Infrastructure (CNKI) using the article title keyword "Miao embroidery," excluding studies specifically devoted to Xiangxi, Songtao, Leishan, Jianhe, and Taijiang Miao embroidery, yielded 204 research papers. Research in this field dates back to a single publication in January 1993, while the annual number of publications reached its highest level, at 37, in both 2023 and 2024.

Studies specifically focusing on Huaxi Miao embroidery have predominantly approached the subject through the embroidery itself, its representative practitioners, and its technical characteristics. Comparatively little attention has been paid to the actual difficulties encountered in its transmission and to the possible pathways for addressing them. This has resulted in insufficient consideration of a fundamental principle underlying the 2003 UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage (hereafter referred to as the Convention): the safeguarding and transmission of the value of intangible cultural heritage cannot be separated from public participation and practice [1].

Based on an in-depth interview with the person in charge of the Xiuhuaxi Intangible Cultural Heritage Living Museum, this study offers a preliminary examination of innovative pathways for the development of Huaxi Miao embroidery.

2. The historical development and artistic characteristics of Huaxi Miao embroidery

The cross-stitch embroidery practiced by the Miao people in Huaxi, Guiyang, is highly representative of Miao embroidery in Guizhou. Historical records indicate that the ancestors of the Miao, the Jiuli tribal confederation, originally inhabited the Yellow River basin. Following a series of conflicts and migrations, some branches moved into Guizhou. Among them was a group that identified itself as Mou (referred to by other ethnic groups as the Huamiao, or "Flowery Miao"), which eventually settled in Geluogesang (present-day Guiyang). Initially, this group primarily used batik for decorative purposes. Later, recognizing that cross-stitch embroidery offered a richer range of colors and greater expressive potential, they began applying embroidery to batik-dyed backgrounds. Over time, the embroidery gradually developed independently of batik, giving rise to distinctive techniques and an artistic language of its own. Common motifs include pig's hoof-shaped branches, cattle hoof-shaped branches, ox heads, sheep heads, dog heads, snowflakes, thorny wildflowers, duckweed, lotus flowers, rice ears, buckwheat flowers, bronze drums, lanterns, silver forks, copper coins, the sun, frogs, water-dwelling insects, crabs, swallows, pavilions, pastoral landscapes, bridges, rivers, and the seal of the Miao king.

Huaxi Miao cross-stitch embroidery serves multiple functions, including commemorating ancestors, recording history, expressing romantic affection, enhancing personal appearance, and decorating clothing and other objects. Its basic technique is cross-stitch, executed by counting the threads of the fabric without the use of a preliminary pattern. A distinctive technique known as "stitching from the reverse side and viewing the front" produces particularly refined and intricate finished pieces. Its artistic development can be divided into three periods: early, middle, and late. The early period, extending to before 1900, was characterized by the use of indigo-colored, handwoven hemp fabric as the base material. The color palette was restrained and elegant, dominated by silvery white with small areas of additional colors. Compositions were carefully structured, while motifs tended to be geometric and highly conventionalized. The middle period, spanning from 1900 to before 1966, saw the continued use of indigo hemp fabric, alongside a limited amount of indigo-dyed homespun cotton. The palette became more vibrant and ornate, dominated by red and complemented by yellow, green, and white embroidery threads. Compositions became more dynamic, and the range of motifs expanded. The late period, beginning in 1967, was marked by greater diversity in the colors and textures of base fabrics. Machine-woven fabrics in red, blue, yellow, white, and black were increasingly used, alongside unconventional materials such as plastic window screening and coarse burlap. In addition to silk thread, embroiderers began using cross-stitch thread and wool yarn. Compositions became more free-form, and motifs more diverse. Some practitioners also began to imitate realistic patterns found in modern textiles.

As the Miao historically lacked a written language, Huaxi cross-stitch embroidery became a distinctive medium through which the community preserved and conveyed its history and legends. The guanzhu garment also serves as an identifying marker and symbol of this particular Miao group. Cross-stitch embroidery is widely incorporated into everyday life, festivals, weddings, funerals, and religious ceremonies, demonstrating its strong practical significance. In producing their work, local women both adhere to inherited traditions and exercise considerable imagination and creativity. Their willingness to innovate has resulted in works that are rarely identical, giving Huaxi Miao embroidery distinctive artistic and original qualities. These works have attracted considerable appreciation from artists and collectors and are held in museum collections both in China and abroad.

3. An in-depth analysis of the current state of Huaxi Miao embroidery transmission based on interviews

3.1. Challenges facing heritage practitioners: Ageing and the risk of a generational gap

The interviews revealed that practitioners of Huaxi Miao embroidery, represented by Ms. Wang QP, face serious challenges in transmitting their craft. Ms. Wang, who is approaching eighty, is a national-level representative bearer of intangible cultural heritage. Nevertheless, her transmission activities encounter multiple difficulties.

On the one hand, her advanced age has resulted in declining physical capabilities. As she explained, "Prolonged embroidery causes serious damage to the cervical spine, eyes, and lower back. My family does not support my continuing to embroider because of concerns about my health." Furthermore, "Even a heritage practitioner at the highest level receives only RMB 20,000 in annual subsidies. The time invested and the income earned are not commensurate." On the other hand, the generational gap in transmission has become increasingly pronounced. As the interviewee noted, Huaxi District is located within Guiyang,

where numerous employment opportunities offering higher salaries are available. In addition, learning Miao embroidery requires a lengthy period of training and considerable effort, while the market recognition of the finished products remains relatively limited. Consequently, very few young people are willing to undertake long-term training.

Ms. Wang continues to rely primarily on the traditional master-apprentice model. However, this approach faces considerable limitations in contemporary society. For example, during intangible cultural heritage programs conducted in schools, Ms. Wang finds it difficult to maintain classroom discipline when teaching groups of fifty or sixty students. As a result, teaching effectiveness is substantially reduced, and instruction tends to become a task-oriented exercise rather than an in-depth transmission of the essential skills and knowledge of the craft.

By contrast, "she is more comfortable communicating with a small group of people who are genuinely interested in learning." However, this approach makes it difficult to expand the scale of transmission.

The documentation of heritage practitioners' activities also presents challenges. As the interviewee explained, "Given her advanced age, Ms. Wang finds it difficult to independently document activities and organize the outcomes of her work." Meanwhile, the relevant administrative departments rely heavily on written documentation and supporting materials in their evaluation procedures, creating a practical contradiction between the requirements of administrative assessment and the actual circumstances of heritage practitioners.

3.2. Challenges of marketization: Misalignment of value and constraints on sales channels

Huaxi Miao embroidery faces a serious misalignment between its cultural and labor value and its market pricing during the process of marketization. Handmade embroidery is labor-intensive and time-consuming. An ordinary embroidered item may take several hours or even several days to complete, yet its market price is often relatively low.

As the person in charge mentioned during the interview, "An embroidered item that takes five hours to complete sells for only RMB 49, far below the cost of the labor involved, making it difficult for practitioners to earn a living from this work." Consumers also tend to misunderstand the value of Miao embroidery. Many consider its prices excessively high while overlooking the cultural value added by the handmade techniques involved.

Limitations in sales channels further constrain market development. Although the Xiuhuaxi Intangible Cultural Heritage Living Museum has experimented with online sales methods, including livestreaming, the results have been unsatisfactory. Its physical shop is located relatively far from the urban center, resulting in limited customer traffic.

The museum previously operated at locations such as Banqiao Art Village. However, high rental costs eventually forced it to relocate. Although the annual rent at its new premises is lower, at approximately RMB 20,000–30,000, the location is farther away from potential consumers, making it difficult to establish a stable customer base.

The development of cultural and creative products also faces difficulties. Many existing products lack originality in their design and rely on the simple accumulation of traditional motifs without meaningful innovation. As a result, they are disconnected from contemporary aesthetic preferences and have limited market appeal.

3.3. Outdated modes of transmission: Formalization and superficiality of experiential activities

Current transmission activities demonstrate a noticeable tendency towards formalization. For example, the Xiuhuaxi Intangible Cultural Heritage Living Museum has introduced a series of free experiential courses, with two-hour sessions becoming the predominant format.

However, this approach faces practical limitations. The museum's relatively remote location means that participants must spend considerable time travelling to and from the venue. Moreover, contemporary lifestyles are characterized by fast-paced routines and considerable work and study pressures. Many people therefore find it difficult to devote half a day to learning embroidery.

More importantly, a two-hour experience is insufficient for participants to gain an in-depth understanding of the cultural significance of Miao embroidery. As the person in charge explained during the interview, "Some children who participate in the experiential activities do not even know how to thread a needle, let alone produce a proper piece of embroidery. Consequently, these activities have been reduced to opportunities for taking photographs and checking in at a cultural attraction."

Even activities described as "training programs" often fail to achieve meaningful transmission because participants lack genuine learning motivations. For instance, some subdistrict staff members participate primarily to fulfil administrative assignments, making it difficult to achieve substantive transmission outcomes.

Similar problems arise in programs designed to introduce intangible cultural heritage into communities and schools. The person in charge recalled organizing more than one hundred community-based activities within a period of two to three months. However, most participants were attracted by supplementary benefits, such as free meals and study-tour opportunities, rather than by a genuine interest in Miao embroidery.

This form of "spoon-feeding" transmission not only fails to stimulate public cultural identification but may also generate aesthetic fatigue towards intangible cultural heritage.

Furthermore, transmission activities lack sufficient differentiation and are rarely designed to address the learning needs of particular groups. For example, Ms. Wang's embroidery skills are better suited to intensive instruction in small groups, yet she is frequently assigned to large-scale collective activities. This mismatch results in the inefficient allocation of transmission resources.

3.4. A crisis of cultural identification: The divide between tradition and modernity

The transmission of Huaxi Miao embroidery also faces a deeper crisis of cultural identification. With the acceleration of modernization, younger generations have become increasingly less interested in traditional craftsmanship and tend to prefer occupations offering higher salaries and faster-paced career development.

The person in charge noted during the interview that "Young people have an insufficiently in-depth perception of the cultural value of Huaxi Miao embroidery, and their willingness for consumption conversion remains relatively weak."

In addition, the contemporary transformation of Miao embroidery has demonstrated tendencies towards simplification and instrumentalization. To cater to short-term demands, many cultural and creative products and promotional activities forcibly attach contemporary meanings to traditional motifs. For example, in current cultural and creative practices, Miao embroidery patterns are often generalized under grand collective cultural narratives, resulting in the dilution and neglect of their unique indigenous folklore connotations and original symbolic meanings.

Such forms of innovation based on superficial combinations not only fail to facilitate genuine cultural transmission but may also distort traditional cultural meanings.

As the person in charge pointed out during the interview, a promotional activity involving a 100-metre-long embroidery-themed scroll produced by machine embroidery to celebrate the Winter Olympics attracted considerable media attention for a time. Nevertheless, at its core, the activity represented a form of cultural consumption of intangible cultural heritage rather than a genuine expression of respect for its cultural significance.

4. Exploring innovative development pathways and strategic recommendations for Huaxi Miao embroidery

4.1. Establishing a diversified transmission system and strengthening talent development

Innovative approaches to transmission should be developed to overcome age-related limitations and move beyond exclusive reliance on the traditional master-apprentice model. A diversified transmission system involving universities, heritage practitioners, and communities should be established.

Universities could be encouraged to introduce programs or workshops related to Miao embroidery, attracting young students to undertake systematic training. Intangible cultural heritage studios could also be established in local communities to provide training for different age groups. These programs might include engaging introductory workshops for children and more advanced training courses for adults.

The concept of an "intangible cultural heritage experience space," which has already been introduced by the Xiuhuaxi Intangible Cultural Heritage Living Museum, could be further developed through a tiered curriculum. For example, the program could include introductory experience courses lasting two to three hours, intermediate courses lasting one to two days, and advanced training programs extending over one to three months. Such an arrangement would accommodate the different needs and learning capacities of various groups.

An incentive mechanism for heritage practitioners should also be established to enhance the professional attractiveness of this occupation. Government departments and social organizations should increase their support for practitioners. In addition to existing subsidies, a Huaxi Miao Embroidery Heritage Transmission Award could be established to recognize and reward practitioners who have made outstanding contributions.

Heritage practitioners should also be encouraged to undertake part-time teaching at universities and participate in cultural exchange activities, thereby enhancing both their social standing and economic income. Meanwhile, media platforms could publicize the experiences and contributions of outstanding practitioners, such as Ms. Wang's long-standing commitment to the craft. Such publicity would strengthen professional recognition and encourage more young people to engage in its transmission.

University–enterprise collaboration should be promoted to cultivate interdisciplinary professionals. Universities could cooperate with institutions such as the Xiuhuaxi Intangible Cultural Heritage Living Museum to establish industry–academia–research bases, training individuals who possess both traditional craftsmanship and contemporary design and marketing capabilities.

For example, universities could introduce programs in innovative Miao embroidery design, with curricula covering traditional stitching techniques, modern design software, and marketing. During their studies, students could participate in practical projects, such as designing cultural and creative products for the museum, thereby integrating theoretical learning with practical experience.

4.2. Deepening market development and establishing sustainable business models

Consumer groups should be accurately identified, and differentiated product systems should be developed to meet their respective needs.

For younger consumers, fashionable and lightweight Miao embroidery accessories, such as mobile phone cases and brooches, as well as cultural and creative stationery products, including notebooks and bookmarks, could be introduced with contemporary design elements.

For middle- and high-end markets, customized clothing and home furnishings could be developed, emphasizing the value of handmade craftsmanship and cultural significance. For the tourism market, portable and reasonably priced souvenirs, such as small embroidered pieces and keychains, could be designed.

The successful experience of Gu Weiwei, mentioned by the interviewee, in incorporating batik into customized clothing design provides a useful reference. Combining Miao embroidery with contemporary fashion design could help establish a high-end customized brand.

Sales channels should also be expanded through an integrated online and offline business model. In addition to retaining the experiential functions of the existing living museum, physical sales outlets or temporary pop-up stores could be established in cultural and creative parks and tourist attractions in cities such as Guiyang to increase brand visibility.

Online development could involve establishing an official e-commerce platform while also opening stores on major commercial platforms such as Taobao and JD.com. Social media platforms, including Douyin and Xiaohongshu, could be used for livestream commerce and content marketing.

Particular attention should be paid to community-based operations. For example, the nearly 500-member activity group established by Xiuhuaxi could be developed into an effective communication and marketing channel. Regularly sharing knowledge about Miao embroidery and organizing online prize draws could strengthen user engagement and gradually convert interested participants into consumers.

The integration of intangible cultural heritage with related industries should also be explored to extend the industrial value chain. Huaxi Miao embroidery could collaborate with the film and television industry to provide costume designs, or work with game developers to incorporate traditional Miao embroidery motifs into game environments and character designs.

In addition, themed educational tourism products, such as a “Miao Embroidery Cultural Experience Tour,” could be developed. Visitors could explore the living museum, learn embroidery techniques from heritage practitioners, and participate in complementary activities such as batik making, drawing on the Langde model [18].

The artistic concepts of Wang Xian could also serve as a reference. Heritage practitioners should be encouraged to collaborate with artists to produce cross-disciplinary artworks, thereby enhancing the artistic value and market premium of Miao embroidery.

4.3. Leveraging technology to innovate transmission and dissemination methods

A digital archive should be established to facilitate the digital preservation of Huaxi Miao embroidery techniques. Technologies such as 3D scanning and high-resolution photography can be employed to comprehensively document traditional patterns and embroidery techniques, thereby creating a systematic digital archive. Virtual reality (VR) technology can also be used to reconstruct historical settings and the embroidery-making process, while interactive applications can provide the public with immersive experiences of Miao embroidery culture. The digitalization of intangible cultural heritage mentioned by the

interviewee could be further systematized. Such efforts should encompass not only embroidery patterns but also the oral histories of heritage practitioners and the traditional contexts in which embroidered products were used, thus creating a comprehensive cultural database.

New media can be leveraged to expand the reach of cultural communication by establishing an official media presence for Huaxi Miao embroidery across platforms such as WeChat, Weibo, and Douyin. Content introducing Miao embroidery, videos demonstrating its production techniques, and stories about heritage practitioners could be published regularly. A youth-oriented language and visual style would help attract younger audiences. For example, a short-video series entitled "Miao Embroidery: A Beginner's Guide" could introduce a particular stitch or explain the cultural significance of a specific motif in each episode. An online "Miao Embroidery Creative Challenge" could also invite users to reinterpret Miao embroidery elements through their own creative work, with outstanding submissions receiving awards and potentially being incorporated into product development.

Intelligent technologies could also be explored to improve production efficiency while preserving the essential techniques of hand embroidery. Computer-aided design (CAD) software could be used for pattern design, while computerized embroidery machines could undertake selected repetitive tasks, thereby increasing productivity and reducing costs. However, clear distinctions between machine embroidery and hand embroidery must be maintained to prevent excessive mechanization from compromising the authenticity of traditional techniques. Products should therefore be clearly labelled as either hand-embroidered or machine-embroidered to accommodate the needs and preferences of different consumer groups.

4.4. Integrating Huaxi Miao embroidery into the cultural ecology and promoting holistic safeguarding

Greater emphasis should be placed on exploring the cultural significance of Huaxi Miao embroidery and establishing a systematic framework for interpreting its cultural value. Expert teams should be organized to conduct in-depth research into its cultural connotations, tracing the historical origins and symbolic meanings of its patterns and motifs. Developing a comprehensive system of cultural interpretation would not only support heritage practitioners in their teaching activities but also provide a cultural foundation for product development and promotion, thereby avoiding the superficial, piecemeal forms of innovation described in the interviews. For example, cultural information cards could be included in product packaging to explain the stories and symbolic meanings behind specific motifs, thereby enhancing consumers' understanding of the cultural significance of the products.

Regional collaboration should also be promoted to foster a broader cultural ecosystem. With Huaxi as its central hub, a regional network could be established in collaboration with Miao embroidery communities in neighboring areas. A Huaxi Miao Embroidery Cultural Festival could be held regularly, bringing together heritage practitioners, artists, and scholars from different regions to participate in exhibitions, academic forums, workshops, and other activities, thereby facilitating exchange and cooperation. Collaboration with local governments could further integrate the transmission of Miao embroidery with rural revitalization and the preservation of traditional villages. For instance, Miao embroidery cultural villages could be developed in Miao-inhabited communities such as Longjing Village, generating cultural, economic, and social benefits.

A balanced mechanism for safeguarding and innovation should also be established. Guiding principles for the preservation and innovation of Huaxi Miao embroidery should be formulated to clarify which core techniques and cultural elements require strict protection and which may be adapted or innovated

within appropriate limits. A review committee comprising heritage practitioners, experts, and business representatives could be established to assess innovation projects related to Miao embroidery and ensure that such initiatives remain grounded in its cultural foundations. For example, when combining batik with Miao embroidery, as in the approach adopted by Gu Weiwei, particular attention should be paid to ensuring that the cultural meanings of traditional motifs are not misinterpreted and that the craftsmanship meets established quality standards.

5. Conclusion and prospects

Through an in-depth examination of the current state of Huaxi Miao embroidery transmission, this study reveals that its development is supported by a profound cultural heritage, sophisticated traditional craftsmanship, and the advantages associated with its policy recognition and cultural branding. Nevertheless, it continues to face considerable challenges, including a generational gap among heritage practitioners, insufficient innovation in product development, and a relatively low level of industrialization.

At the same time, the expansion of the cultural industry, the possibilities offered by technological innovation, and the opportunities arising from rural revitalization provide promising prospects for its future development. However, Huaxi Miao embroidery must also confront serious challenges, including intensifying competition arising from product homogenization, inadequate intellectual property protection, and continuously rising production costs.

In response to these challenges, this study proposes a series of innovative development pathways and strategic recommendations. These include establishing a diversified and collaborative transmission system, deepening market development and brand building, leveraging technological innovation to transform approaches to transmission and dissemination, and integrating Huaxi Miao embroidery into the regional cultural ecology through holistic safeguarding.

Nevertheless, it is important to recognize that the innovative development of Huaxi Miao embroidery constitutes a long-term and complex undertaking requiring systematic coordination. Its success depends on the collaborative efforts and sustained investment of multiple stakeholders, including government departments (policy support, funding, and platforms), enterprises (markets, capital, and operations), heritage practitioners (craftsmanship and innovation), academic institutions (research and education), communities (participation and cultural identification), and the general public (awareness and consumption).

Disclosure statement

The authors declare no conflict of interest.

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