

Ecological Shifts and Cultural Continuity: The Case of Zhuang Liao Songs in Guangxi, China

Mudanças ecológicas e continuidade cultural: o caso das canções de Zhuang Liao em Guangxi, China



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Abstract: The Zhuang Liao Songs¹ (壮族嘹歌) is a traditional duet folk song that is popular in Pingguo County, Guangxi, and carries the historical memory and cultural identity of the Zhuang community. With the rapid development of modernization, urbanization, and digital media, the musical ecological environment in which Zhuang Liao Songs exists has undergone significant changes. Based on the theory of music ecology and drawing on a 12-month ethnographic field survey, this paper examines how Zhuang Liao Songs can achieve adaptation and cultural continuity in the new ecological environment. The study found that Zhuang Liao Songs have expanded their ecological niche through campus education, public performances, and digital communication, and the community has also actively negotiated cultural identity between tradition and innovation. The article proposes a “multilevel ecological

¹ Zhuang Liao Songs (壮族嘹歌) are traditional antiphonal folk songs of the Zhuang ethnic group in southwest China, particularly prevalent in Guangxi Zhuang Autonomous Region. Characterized by their responsorial singing style, poetic five-character quatrain structure, and improvisational performance, Liao Songs have historically been performed in communal settings such as village festivals, courtship rituals, and agricultural gatherings. They function not only as musical expressions but also as vehicles for oral history, moral instruction, and cultural identity within Zhuang communities.

adaptation model”, emphasizing that traditional music should be regarded as a dynamic ecosystem, providing theoretical support for understanding the relationship between cultural change and continuity, and providing empirical references for the protection practice of intangible cultural heritage.

Keywords: Zhuang Liao Songs, music ecology, ecological adaptation, cultural continuity, identity negotiation

Resumo: As Canções Zhuang Liao (壮族嘹歌) são um gênero de canção folclórica tradicional em dueto, popular no Condado de Pingguo, Guangxi, que carrega a memória histórica e a identidade cultural da comunidade Zhuang. Com o rápido desenvolvimento da modernização, urbanização e da mídia digital, o ambiente ecológico musical em que essas canções existem mudou significativamente. Com base na teoria da ecologia musical e em uma pesquisa de campo etnográfica de 12 meses, este artigo explora como as Canções Zhuang Liao podem alcançar adaptação e continuidade cultural no novo ambiente ecológico. O estudo constatou que essas canções expandiram seu nicho ecológico por meio da educação em escolas, apresentações públicas e comunicação digital, e que a comunidade também tem negociado ativamente sua identidade cultural entre tradição e inovação. O artigo propõe um “modelo de adaptação ecológica multinível”, enfatizando que a música tradicional deve ser compreendida como um ecossistema dinâmico, fornecendo suporte teórico para entender a relação entre mudança cultural e continuidade, além de referências empíricas para a prática de proteção do patrimônio cultural imaterial.

Palavras-chave: Canções Zhuang Liao; ecologia musical; adaptação ecológica; continuidade cultural; negociação de identidade.

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Introduction

When I first walked into a Zhuang village in Pingguo County, Guangxi, I heard loud and harmonious duets in the distance. Soon, I saw a group of Zhuang villagers sitting on stones at the foot of the mountain in a semicircle, singing the traditional Liao songs (see Figure 1) with great enthusiasm. The two male singers held songbooks, their expressions focused and their voices high. The women beside them listened quietly, occasionally singing along with the melody. The villagers in the back row either watched from a distance or whispered, while the young people raised their mobile phones to record the scene. This scene not only presents the contemporary performance landscape of Zhuang Liao Songs but also symbolically reflects the complex interplay between tradition and modernity, as well as the intergenerational divide between the older and younger generations. The complex interweaving of this ecological structure is the core of this article: In the new musical ecological environment, how can Zhuang Liao Songs achieve self-adaptation and maintain their cultural vitality?

Figure 1- Zhuang Liao Songs performance during field research in Pingguo



Source: Photo taken by the author during fieldwork in Pingguo County, Guangxi, 2023. Description of the image: A group of Zhuang villagers sing traditional liao songs in a semicircle at the foot of a mountain. Two male singers hold handwritten songbooks; women sit nearby listening, and younger individuals record the scene with their mobile phones. The image illustrates the interaction between tradition and modernity, as well as the interplay between oral and digital culture, and intergenerational transmission.

Zhuang Liao Songs is a traditional folk duet genre popular in the Zhuang-inhabited areas in southwest China, especially in Pingguo County, Guangxi. It is characterised by five-character four-line response singing, improvisation, and situational performance. It is widely used in community life scenes such as festivals, farming, and love, and is known as the encyclopedia of Zhuang life (Teng Guangyao, 2005). As a “two-part duet” musical form, Liao songs not only convey the oral narrative and folk ethics of the Zhuang people but also serve as an essential medium for identity recognition and historical memory (Qin Naichang, 2008). In 2008, Liao songs were officially included in China’s list of national intangible cultural heritage, demonstrating their essential position in the national cultural system.

However, with the promotion of multiple social changes, such as globalization, urbanization, and digital communication, the traditional ecological environment on which Liao songs depend is undergoing deconstruction and reshaping. Zhao Lin (2012) pointed out that Liao songs are facing severe challenges, such as the break of intergenerational inheritance, the disappearance of traditional fields, and the decline of youth participation; Hong Guichun (2015) revealed through field surveys that the focus of Liao songs’ inheritance has gradually shifted from family and community to school and public performance space. Although these changes have weakened the daily life basis of Liao songs, they have also provided a new media ecology and social embedding path. Correspondingly, in recent years, domestic studies have explained it from the perspectives of literary form (Teng Guangyao, 2005), cultural connotation (Pan Qixu, 2005), and inheritance mechanism (Zhao Lin, 2012). However, they generally focus on static description and protection perspectives. There is still a lack of attempts to systematically analyse the adaptation mechanism of Liao songs from the perspective of dynamic ecosystems.

In the international context, music ecology, as an emerging interdisciplinary theoretical framework, advocates understanding music culture as a quasi-ecological system, emphasising the

interdependence of music practice and its social, technological, and environmental systems (Titon, 2009; Allen & Dawe, 2015). Titon proposed that the sustainability of traditional music depends on the adaptation and migration of its ecological niche, while Allen further expanded this concept to the context of globalization, emphasizing that under modern communication conditions, music traditions must build a multilevel ecological network to survive. Existing international cases, such as Indonesian gamelan music (Sutton, 2002), Irish sean-nós folk songs (Ó Laoire, 2003), and South American indigenous music (Seeger, 2016), all show that the evolution of music ecology is not only an adaptation to physical space but also a systematic response to social institutions, media structures, and cultural identity.

However, few domestic studies have systematically introduced this theoretical framework to explore how Zhuang Liao Songs self-adjust and regenerate in ecological changes. Especially in the context of “multi-layered media dwelling”, such as short video platforms, digital music dissemination, and school curriculum systems becoming the new normal of music practice, how Liao songs reshape their ecological niche, construct adaptation strategies, and negotiate cultural identity has essential theoretical value and practical significance.

Based on a 12-month field ethnographic survey, this paper adopts a combination of participant observation, in-depth interviews, and text analysis to focus on the following two research questions: (1) How do Zhuang Liao songs achieve self-adaptation and cultural continuity in the midst of ecological and environmental changes? (2) In this process, how does the community negotiate and reconstruct its cultural identity? In response to the above questions, this paper takes music ecology as the theoretical basis, proposes a “multilevel cultural ecological adaptation model”, and conducts a systematic analysis of the ecological niche shift, communication strategy evolution, and cultural identity dynamics of Liao songs.

The full text is structured as follows: the first part is the research background and theoretical review; the second part introduces the research methods and data sources; the third part comprehensively presents the ecological niche change, communication path, adaptation strategy and identity negotiation process of Liao songs; the fourth part conducts theoretical dialogue, cross-cultural comparison and practical reflection; and finally, it is the conclusion and future research prospects.

While previous studies have provided valuable insights into the historical origins, literary forms, and cultural functions of Zhuang Liao songs, most remain at a descriptive and protective level, focusing primarily on textual analysis or traditional documentation. These studies have yet to systematically examine Liao songs from the theoretical perspective of music ecology, nor have they delved deeply into how this tradition actively adapts to ecological changes, such as urbanization, globalization, and digital media transformation. In particular, the environmental niche shifts, adaptive strategies, and cultural identity negotiation processes within Zhuang communities remain understudied. This study aims to address these gaps by integrating the theoretical framework of music ecology with empirical ethnographic fieldwork, offering an original exploration of the dynamic adaptive processes of Zhuang Liao songs and the agency demonstrated by communities in preserving this cultural heritage. By combining theoretical innovation with methodological rigour, this study not only deepens our understanding of the interactive mechanisms of cultural continuity and change but also provides new comparative perspectives and practical references for international discussions on intangible cultural heritage.

1. Materials and methods

1.1. Theoretical Approach: Music Ecology

This study employs the international music ecology theory as an analytical framework to investigate how Guangxi Zhuang Liao Songs can achieve their own ecological adaptation and cultural sustainability in a changing ecological environment. Music ecology is an interdisciplinary theoretical approach that emphasizes viewing music culture as a complex system, similar to an ecosystem, and focuses on the dynamic interaction between music practice and the environment (Allen & Dawe, 2015; Titon, 2009). This theory focuses on how traditional music can actively adopt adaptive strategies to maintain its vitality and cultural significance in the face of social change, urbanization, and globalization.

This study employs four core concepts from music ecology theory: ecological niche, ecological adaptation, sustainability, and the balance and imbalance of the music ecosystem. The definitions of each core concept and its specific application in the study of Zhuang Liao Songs are shown in Table 1.

Table 1: Core concepts of music ecology and their corresponding relationship with the study of Zhuang Liao Songs

| Core con- cepts | Definition | Application in Zhuang Liao Songs Research |
|-----------------------|---|--|
| Ecological Niche | The specific role or position occupied by a music tradition within certain social environments, media channels, and cultural contexts. | The traditional niche of Liao songs in rural communities, rituals, festivals, and courtship activities; their expanding and changing niche in urban areas, education systems, and media platforms. |
| Ecological Adaptation | Active adjustments or transformative measures adopted by musical traditions to adapt to changing ecological environments and maintain their vitality. | Adaptation strategies of Liao songs through integration into school curricula, public stage performances, and dissemination via digital media to cope with modernization and globalization. |

| | | |
|---|--|---|
| Sustainability | Long-term cultural continuation through effective transmission mechanisms and adaptive strategies. | Sustainable transmission of Liao songs through government support, active community participation, and educational promotion among youth. |
| Balance and Imbalance in Musical Ecosystems | When environmental changes disrupt the original ecological balance, a music tradition may face survival crises or actively adapt to achieve a new balance. | The ecological balance of Liao songs is disrupted due to urbanization, migration, and media influence; local communities actively seek adjustments to restore ecological equilibrium. |

Note: The definitions of core concepts are synthesized from music ecology theory (Allen & Dawe, 2015; Titon, 2009), and their applications are specifically adapted to analyze the case of Zhuang Liao songs based on ethnographic fieldwork conducted by the author in Pingguo County, Guangxi.

The above-mentioned theoretical framework of music ecology provides the following theoretical value for this study: First, music ecology emphasises the dynamic interaction between music practice and ecological environment, which enables researchers to analyse how Zhuang Liao Songs adapts to and responds to the cultural ecological changes brought about by modernisation and globalisation from a dynamic and process perspective. Secondly, this theory can reveal the multiple relationships within the music ecosystem, highlighting that the ecological adaptation of Liao Songs involves not only changes in the music itself (such as melody, lyrics, and performance style), but also multi-dimensional adjustments in social scenes, communication channels, cultural policies, and identity. Finally, this theoretical framework helps explain how the Zhuang community actively negotiates and reconstructs its cultural identity in the process of adapting to the Liao Songs’ ecological environment.

In short, using the theoretical framework of music ecology, this study can gain a deeper understanding of the complex process and mechanism of the ecological adaptation of Zhuang Liao Songs, thereby more accurately grasping the sustainable development path and practical significance of the Liao Songs tradition in the contemporary ecological environment. This theoretical integration provides a solid academic foundation and comprehensive analytical perspective for the research conclusions.

1.2. Fieldwork and Analytical Procedure

This study employs ethnographic methods and qualitative analysis to systematically investigate the ecological adaptation and cultural sustainability of Zhuang Liao Songs in Pingguo County, Guangxi, within the modern music ecological context. The research site is concentrated in Pingguo County, Guangxi. The area has long been the main heritage centre of Zhuang Liao Songs, with rich musical and cultural resources and active community heritage practices, making it an ideal place for ethnographic research. The research subjects include Liao Song inheritors (senior and young singers), community members, local cultural officials, and educators, totaling 38 people.

The field survey lasted 12 months and was primarily conducted through participant observation and semi-structured in-depth interviews. The investigators participated in Liao Songs performances, traditional song fairs, daily community music activities, and Liao Songs teaching courses in schools in many villages in Pingguo County. The field observation lasted about 120 hours, and detailed field notes, photos, videos, and other image materials were obtained. These procedures follow established ethnographic research practices (Hammersley & Atkinson, 2007; Spradley, 1980). The semi-structured interview design provided flexibility while ensuring comparability across participants (Braun & Clarke, 2006). The in-depth interviews were conducted in a semi-structured mode, each lasting about 60 to 90 minutes. The topics revolved around adaptation strategies, inheritance patterns, and cultural identity in the Liao Songs tradition in response to ecological changes. The total number of interview recordings and transcripts was about 45 hours. In addition, this study also collected local government policy documents, traditional songbooks, and local archival materials related to Liao Songs, totalling about 500 pages. This study was approved by the Research Ethics Committee of the Faculty of Educational Science and Music, Luoyang Institute of Science and Technology (Approval Number: 20230045), and all participants provided informed consent. Relevant ethical documents are included in the supplementary materials.

Data analysis was mainly conducted using thematic analysis and ethnographic narrative analysis. Thematic analysis coded the interview transcripts and field notes word by word, following the method proposed by Braun and Clarke (2006), and extracted core themes, including “niche change,” “ecological adaptation strategy,” and “cultural identity negotiation.” At the same time, the ethnographic narrative analysis method was employed to integrate on-site observation records and interview narratives, presenting in detail how the Liao Songs community actively adapted to the new ecological environment and achieved a dynamic balance between tradition and modernity, thereby ensuring the dynamism and authenticity of the research.

To facilitate the reviewer’s clear understanding, the specific research methods and data types are summarized in the following table (Table 2):

Table 2: Summary of research methods and data collection

| Method | Description and Implementation | Type of Data | Amount of Data Collected |
|-------------------------|---|--|---|
| In-depth Interviews | Semi-structured interviews conducted with senior singers, younger inheritors, community residents, and cultural officials | Transcribed interview texts | 38 participants, approximately 45 hours |
| Participant Observation | Participation in song fairs (Gewe), festival events, school lessons, and everyday community singing activities | Field notes, photographs, video recordings | Approximately 120 hours of observational data |
| Documentary Analysis | Analysis of policy documents, traditional songbooks, and local archival materials | Textual and archival documents | Approximately 500 pages |

Note: Data collection and analysis were collaboratively conducted by the research team, encompassing fieldwork design and execution, musicological analysis (including on-site transcription and acoustic analysis), interpretation of cultural context, and development of the theoretical framework.

In summary, by comprehensively employing ethnographic in-depth participation, interviews, and qualitative analysis methods, this study systematically analyzed how Zhuang Liao Songs achieved cultural continuity and identity negotiation in the modern ecological

environment through ecological adaptation strategies. The rigour, comprehensiveness, and depth of the research methods provide solid academic support for the research conclusions of this article.

2. Findings and Analysis

Through a 12-month field survey in Pingguo County, Guangxi, combined with in-depth interviews, participant observations, and analysis of documentary archives, this study revealed significant changes in the ecological niche shift, communication ecology, ecological adaptation strategies, and cultural identity reconstruction of Zhuang Liao Songs.

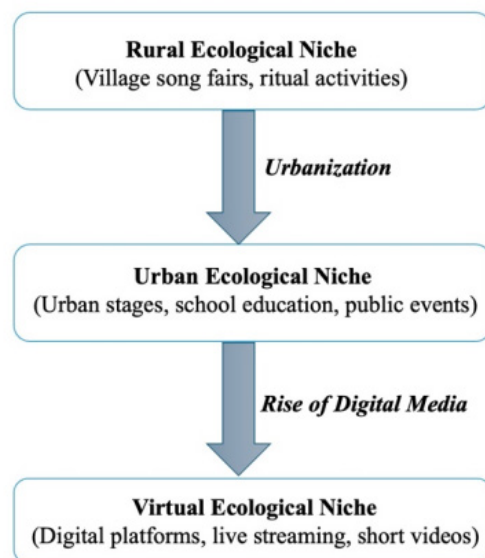
2.1. Ecological Niche Shifts

Interview and observation data indicate that Zhuang Liao Songs have undergone a shift from a rural ecological niche to an urban ecological niche, and then gradually to a virtual ecological niche. Traditionally, Liao Songs mostly appear in rural song fairs, festival ceremonies, and family and community activities. As a 68-year-old senior singer said:

In the past, we sang Liao Songs during festivals in the village or after the busy farming season, when everyone gathered to sing and chat. Now there are fewer young people in the village, and there are fewer singing festivals. We perform more often in the county town or schools. (Interview record of senior singer, September 2023)

It was also found in the field observation records that Liao Songs have gradually entered urban environments such as county stages and school classrooms. Especially with the rise of digital media, the younger generation of singers has begun to actively use online platforms to broadcast Liao Songs performances, allowing their spread to enter the virtual ecological niche even further.

Figure 2 Schematic diagram of the ecological niche changes of Zhuang Liao Songs



2.2. Transmission Ecology

The transmission mode of Liao Songs has undergone a significant transformation with the shift in ecological niche. The traditional transmission mode relies on oral singing and handwritten songbooks (Figure 3), which have strong family, community, and regional characteristics. A community resident emphasised, "In the past, the songbooks we sang were all handwritten. My grandfather passed them to my father, and my father taught me." (Community Resident Interview Record, October 2023)

Figure 3 Handwritten Liao Songs songbook, taken by the author during field research



In recent years, with the widespread application of digital technology, Liao Songs have gradually become digitalised and cross-regional. During the 2023 Spring Festival, the Pingguo County Government organized a large-scale, synchronous online and offline song festival. During this event, the number of online live viewers exceeded 100,000, which significantly increased the social influence of Liao Songs. To further illustrate the specific changes in the Liao Songs’ communication ecology, Table 3 presents the media and communication forms of Liao Songs across different communication eras, along with their characteristics and influences.

Table 3: Transmission Ecology and Media Transformation of Liao Songs

| Transmission Era | Media and Forms | Features and Impacts |
|---------------------|--|---|
| Traditional Ecology | Oral tradition, handwritten songbooks | Strong regionality, spread within families and villages, and limited range of spread |
| Modern Ecology | School education, stage performances | Wider audience, enhanced urban communication, and significant policy promotion |
| Virtual Ecology | Online platforms, live streaming, short videos | Rapid cross-regional dissemination, increased participation of young groups, and enhanced interactivity |

Note: Table 3 is compiled based on a comprehensive analysis of the field survey and interview data from this study, which clearly illustrates the ecological change characteristics of Zhuang Liao Songs in different communication environments.

2.3. Ecological Adaptive Strategies

The survey reveals that the Zhuang community actively employs a range of adaptive strategies to cope with changes in the ecological environment. Local education officials said, “For young people to accept Liao Songs, we actively include Liao Songs in primary school teaching so that young people can learn and love our traditional culture from an early age.” (Interview record of education officials, August 2023)

At the same time, community organisations are also actively conducting Liao Songs performance rehearsals and event promotions to expand the number of participating groups. Young

singers utilize digital platforms for online live broadcasts to promote the spread of Liao Songs among young people.

2.4. Identity Reconstruction

In the process of ecological adaptation, inheritors of Zhuang Liao Songs and community residents of different generations have shown a positive trend of negotiation and reconstruction regarding the cultural identity of Liao Songs. The research interview analysis shows that senior singers tend to emphasise the protection of the original ecological style of Liao Songs: "The things of our ancestors cannot be changed casually, and Liao Songs must remain authentic." (Interview record of senior singers, September 2023)

Young inheritors tend to integrate Liao Songs with modern elements to adapt to the music preferences of contemporary young people: "We can add some modern elements to make young people like Liao Songs more." (Interview record of young singers, July 2023)

Ordinary community residents generally hold an inclusive and open attitude, believing that if culture can be continuously inherited, styles can coexist in multiple ways: "No matter how it changes, as long as young people are still singing our songs, we are pleased, and the culture can be passed on." (Interview record of community residents, October 2023)

To further explain the multi-dimensional interactive model of the Zhuang community in the process of cultural identity reconstruction, Table 4 shows the specific views of different groups on the dimensions of music style, communication methods, and identity recognition, as well as the overall performance of the community.

Table 4 Dimensions and Manifestations of Identity Reconstruction in Zhuang Liao Songs

| Identity Dimension | Senior Practitioners' Views | Young Practitioners' Views | Community Manifestation |
|--------------------|--------------------------------|------------------------------------|---------------------------------|
| Musical Style | Preservation of original style | Preference for modern fusion | Multiple styles coexist |
| Transmission Mode | Family-based oral tradition | Digital media and school education | Multiple channels coexist |
| Identity | Core Zhuang cultural identity | Broader social-cultural identity | Inclusive, pluralistic identity |

Note: Table 4 summarizes the field interview and observation data from this study, presenting the dynamic reconstruction of the identity of the Zhuang community's Liao Songs culture during the process of cultural ecological changes.

The study found that the self-adaptation and cultural continuity of Zhuang Liao Songs in the contemporary music ecology are mainly reflected in the following four aspects. First, the change in ecological niche: Liao Songs actively adjusted its cultural ecological position from the traditional rural context to the broader modern stage and media space, thereby avoiding the risk of decline caused by the loss of its original heritage environment. Second, the expansion of the communication ecology: the dissemination channels of Liao Songs have expanded from the previous single word of mouth to a diversified network, including song festivals, competitions, and digital media. This enrichment of the communication ecology has dramatically broadened the scope of influence of Liao Songs and consolidated the population base of its inheritance. Third, the innovation of adaptation strategies: Liao Songs inheritors and related institutions have adopted a series of positive strategies to adapt to the needs of the times, such as interpreting traditions in the form of modern bands (such as the attempt of the “Ha Liao Band”), declaring Liao Songs as an intangible cultural heritage to obtain institutional support, and regularly holding folk song conferences to create a singing environment. These measures have achieved integration and symbiosis with contemporary social life while maintaining the

artistic characteristics of Liao Songs. Fourth, the reconstruction of cultural identity: under the new historical conditions, the cultural significance of the Liao Songs was reinterpreted and revalued. Through the revival of the Liao Songs, the Zhuang ethnic group strengthened its national cultural identity and integrated traditional aesthetics into modern life, which not only consolidated community cohesion but also made this ancient ballad a vivid identity symbol in the contemporary context.

This series of self-adaptation processes confirms the theoretical view of music ecology: music culture phenomena are like living organisms in an ecosystem. Only by maintaining diversity and continually adapting to environmental changes can they demonstrate strong resilience and sustained vitality. As Titon (2009) emphasized, cultural policies and practices should draw on the core principles of the “new ecological protection” concept, including maintaining cultural diversity, promoting moderate development, strengthening connectivity, and encouraging the community to actively protect culture, thereby promoting the sustainable development of music culture. The experience of the modern inheritance of the Zhuang Liao Songs aligns with the above principles—through diverse survival paths and the active protection of the community, it has radiated new vitality in the modern context and achieved the sustainable transmission of traditional culture.

3. Discussion

This study systematically examines the self-adaptation process of Zhuang Liao songs in ecological change and makes the following four discussions based on the theory of music ecology:

3.1. Theoretical Contributions

Based on the field study of the ecological niche change and community response mechanisms of Liao Songs, this paper proposes a “Multilevel Cultural-Ecological Adaptation Model.” This model emphasizes that in the ecosystem of traditional music

practice, cultural sustainability is based on the synergy of three levels: the individual level (performer's agency), the institutional level (institutional mediation), and the media level (media affordances). This theoretical construction expands the idea of "music as an ecosystem" proposed by Titon (2009) and also responds to the research direction of "music sustainability depends on multi-dimensional adaptation mechanisms" proposed by Allen & Dawe (2015).

In addition, this paper empirically refines the "Cultural Ecological Niche", indicating that the traditional venues of Liao Songs (such as song fairs) and emerging media scenes (such as short video live broadcast platforms) can be regarded as a coexistence of ecological niches with heterogeneous functions but continuity of inheritance. The application of this concept helps to refine the specific operational path of ecological theory in the study of ethnic music.

3.2. Cross-Cultural Comparison

Comparing the ecological adaptation experience of Zhuang Liao Songs with contemporary performances of Irish folk songs and Indonesian gamelan reveals several standard mechanisms and local differences.

In Ireland, folk forms such as sean-nós have been integrated into the education system and media platforms with the support of national funds. Still, they often face the contextual rupture brought about by the emphasis on "performance" (Ó Laoire, 2003). In contrast, Liao Songs is more "liveable" and retains the function of daily community expression.

Indonesian gamelan preserves its traditions through national cultural projects and institutionalised music academies in the context of urbanisation (Sutton, 2002), which is similar in structure to the dual-path inheritance mechanism of Liao Songs through school classrooms and short videos. However, the "decentralised dissemination" of Liao Songs (i.e., live broadcasts and social dissemination initiated by the public) is more ecologically resilient in the Internet era.

This demonstrates that Liao Songs' ecological adaptation strategy not only draws on international experience but also features a distinct "bottom-level driven" approach, providing a realistic reference for other marginal music cultures to seek self-renewal in the media era.

3.3. Practical Implications

The ecological adaptation mechanism revealed in this study has the following implications for the current Chinese folk music protection policy: First, cultural policies should avoid staticising and theatricalising traditional music but should encourage it to be integrated with daily life and digital space to enhance its self-organizing vitality; Second, the "school-community-platform" trinity collaboration mechanism should be strengthened to incorporate education, folk, and network environments into multiple ecological niches for traditional music; Finally, young people should be given the dominant power and expression space in the conventional music regeneration so that ecological adaptation is not only cultural "preservation" but also cultural "transformation".

The practical experience of Liao Songs demonstrates that only by combining the "dual-track ecological strategy" of institutional support and community initiative can traditional music achieve endogenous, sustainable development within the global cultural context.

3.4. Limitations and Future Research

This study focuses on the Liao Songs community in Pingguo County, Guangxi. Although it is typical, it has not yet involved the Zhuang music ecology in other regions (such as Tiandong, Mashan, and northern Vietnam), and regional comparisons are still to be expanded.

Additionally, this study primarily employs qualitative methods. In the future, it can be combined with digital anthropology methods (such as quantitative content analysis of short video platforms) and data modelling of music ontology characteristics to enhance the structural presentation of the ecosystem.

Finally, the potential of Liao Songs in transnational communication and the construction of cross-cultural identity is also worth exploring. Future research can focus on the circulation trajectory of music in overseas Zhuang communities and Southeast Asian cultural festivals to further expand the explanatory power of music ecology in the context of the global South.

4. Conclusion

This paper employs music ecology as its theoretical framework, combined with long-term ethnographic field research, to conduct a systematic analysis of the adaptive mechanisms and cultural sustainability of the Zhuang ethnic group's Liao songs in the contemporary ecological environment of Pingguo County, Guangxi. The study found that the Liao songs exhibit four interrelated processes: the expansion of ecological niches, the transformation of transmission methods, the implementation of adaptive strategies, and the negotiation of cultural identity. These processes indicate that the Liao songs demonstrate strong resilience in responding to the challenges of urbanization, globalization, and digitalization and have constructed a 'distributed adaptation' path of diverse symbiotic transmission across three domains: institutional, community, and digital platforms.

At the theoretical level, the 'multilevel cultural ecological adaptation model' proposed in this paper provides empirical support for Titon's (2009) theory of 'music as an ecosystem' and further expands Allen and Dawe's (2015) framework of musical sustainability. The study also elucidates explicitly the application of the concept of 'cultural ecological niche' in traditional music research, offering ethnomusicology a more structured and ecological analytical approach.

At the practical level, the study emphasizes that the protection of traditional music culture should not be confined to the 'fixed logic' within the intangible cultural heritage system but should promote its deep integration with digital spaces, youth culture,

and cross-media platforms. The case of Liao songs demonstrates that truly effective transmission stems from 'ecological embedded participation,' which involves the coupling of institutional provision, community mobilization, and platform creativity. This perspective offers operational insights for the protection and policy formulation of ethnomusicology in China and globally.

Of course, this study still has certain limitations. First, the field research was primarily concentrated in Pingguo County, failing to conduct a horizontal comparison of the diversity of Liao Songs practices in places like Tiandong and Mashan. Second, the research methods were primarily qualitative; future studies could combine quantitative methods from digital anthropology and communication studies to map the dissemination network of Liao Songs within the digital ecosystem. Finally, the transnational dissemination of Liao songs and the construction of cross-cultural identity have yet to be explored. Future research could extend to overseas Zhuang communities, transnational cultural festivals, and global music platforms to explore new pathways for Liao songs as 'mobile cultural assets'.

In summary, Zhuang folk songs are not merely a sound heritage but a living ecological system. Their evolution provides a theoretical framework for understanding how traditional music achieves regeneration in non-linear social transformations. This paper's contribution lies in its organic integration of an ecological perspective and ethnographic methods to reveal the mechanisms of cultural continuity, offering a unique response from China's southern marginal communities to music culture preservation practices in a global context.

References

ALLEN, A. S.; DAWE, K. (Ed.). **Current directions in ecomusicology: Music, culture, nature**. New York: Routledge, 2015. DOI: <https://doi.org/10.4324/9781315752938>.

BRAUN, V.; CLARKE, V. Using thematic analysis in psychology.

Qualitative Research in Psychology, London, v. 3, n. 2, p. 77–101, 2006. DOI: <https://doi.org/10.1191/1478088706qp063oa>.

FELD, S. **Sound and sentiment: Birds, weeping, poetics, and song in Kaluli expression**. 3. ed. Durham: Duke University Press, 2012. DOI: <https://doi.org/10.1215/9780822395898>.

HAMMERSLEY, M.; ATKINSON, P. **Ethnography: Principles in practice**. 3. ed. London: Routledge, 2007.

HONG, Gui Chun. “Ge hua” de shenghuo: Pingguo Zhuangzu liaoge wenhua bianqian yanjiu. 2015. Dissertação (Mestrado) – Guangxi Minzu University, Nanning.

Ó LAOIRE, L. Traditional song in Ireland: Living fossil or dynamic resource? In: FINNEGAN, R. (Ed.). **Participating in the knowledge society: Researchers beyond the university walls**. London: Palgrave Macmillan, 1997. p. 123–142.

PAN, Qi Xu. Zhuangzu “liaoge” de wenhua neihan: Zhuangzu “liaoge” wenhua yanjiu zhi wu. **Guangxi Minzu Yanjiu**, n. 3, p. 96–107, 2005. DOI: 10.3969/j.issn.1004-454X.2005.03.015.

QIN, Nai Chang (Ed.). **Zhuangzu liaoge yanjiu**. Nanning: Guangxi Minzu Chubanshe, 2008. ISBN: 978-7-5363-5428-2.

SEEGER, A. Natural species, sounds, and humans in lowland South America. In: ALLEN, A. S.; DAWE, K. (Ed.). **Current directions in ecomusicology: Music, culture, nature**. New York: Routledge, 2016. p. 89–98.

SPRADLEY, J. P. **Participant observation**. New York: Holt, Rinehart and Winston, 1980.

SUTTON, R. A. **Calling back the spirit: Music, dance, and cultural politics in lowland South Sulawesi**. Oxford: Oxford University Press, 2002. DOI: <https://doi.org/10.1093/acprof:oso/9780195131238.001.0001>.

TENG, Guang Yao. "Liaoge" de neirong, xingshi he fenlei: Zhuangzu "liaoge" wenhua yanjiu zhi si. **Guangxi Minzu Yanjiu**, n. 2, p. 106–115, 2005.

TITON, J. T. Music and sustainability: An ecological viewpoint. **The World of Music**, v. 51, n. 1, p. 119–137, 2009. Disponível em: <https://www.jstor.org/stable/41699988>. Acesso em: 11 jul. 2025.

ZHAO, Lin. Zhuangzu liaoge de chuancheng yu fazhan tanxun. **Guangxi Minzu Yanjiu**, n. 3, p. 46–49, 2012. DOI: 10.3969/j.issn.1004-454X.2012.03.009.

ZHENG, Chao Xiong. Guanyu Zhuangzu "liaoge" wenhua zhongxindi de tantao: Zhuangzu "liaoge" wenhua yanjiu zhi san. **Guangxi Minzu Yanjiu**, n. 2, p. 97–105, 2005.

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Consent to use of image

Written informed consent was obtained from all individuals appearing in images included in this study for their publication and academic dissemination.

Research ethics committee approval

This study was approved by the Research Ethics Committee of the Faculty of Educational Science and Music, Luoyang Institute of Science and Technology (Approval Number: 20230045).

Conflict of interest

The authors declare no conflict of interest regarding the research, authorship, or publication of this article.

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