



**PRESERVATION OF ZHUANG SONGS IN THE BORDER AREA OF
GUANGXI, CHINA, THROUGH MEANS OF AUDIOVISUAL RECORDING
AND ARCHIVING**

By

LIN ZHI

**Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia,
in Fulfilment of the Requirements for the Degree of Doctor of Philosophy**

November 2024

FEM 2024 29

All material contained within the thesis, including without limitation text, logos, icons, photographs, and all other artwork, is copyright material of Universiti Putra Malaysia unless otherwise stated. Use may be made of any material contained within the thesis for non-commercial purposes from the copyright holder. Commercial use of material may only be made with the express, prior, written permission of Universiti Putra Malaysia.

Copyright © Universiti Putra Malaysia



Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment
of the requirement for the degree of Doctor of Philosophy

**PRESERVATION OF ZHUANG SONGS IN THE BORDER AREA OF
GUANGXI, CHINA, THROUGH MEANS OF AUDIOVISUAL RECORDING
AND ARCHIVING**

By

LIN ZHI

November 2024

Chairman : Associate Professor Ahmad Faudzi bin Musib, PhD
Faculty : Human Ecology

The study's primary objective is to contribute to the preservation of Zhuang songs actively and document the unique relationship between the community and these songs. The study also has the following research objectives: critically examining the context of Zhuang song singing practice, the sound elements, and how the singing samples are integrated into social functions. This approach is recognized as an effective method in archiving and compiling recorded song samples into a multi-perspective sound-bank categorized by region, song type, and dialect while integrating sound engineering tools for technical devices and establishing efficient workflows for its construction. This is achieved through a meticulously designed procedure that involves collecting and documenting Zhuang song audio recordings using multiple sound perspectives within their traditional acoustic environment. The resulting sound-banks serve as comprehensive repositories of Zhuang songs, catering to both local utilization and virtual settings such as museums and archives.

Methodologically, this thesis focuses on audio field-recordings and the presentation of Zhuang songs, resulting in the creation of a sound-bank. The content of this sound-bank consists of vocal recordings of the singers, ambient sounds, and provides multiple perspectives of sound collections. Traditionally, Zhuang songs are sung by a man, woman, or group at a certain distance. However, the collection of Zhuang songs throughout this study, where each collection gathers three designated recording positions, takes this characteristic into account based on technical conditions and audio mapping research in the environment, contributing to the sound-bank collection.

The study employs qualitative methods from ethnomusicology, sound archival sciences, research on the oral transmission of knowledge, and linguistic studies. By integrating these disciplines, the study comprehensively analyzes Zhuang songs, including their cultural significance and transmission within the community. The analysis findings prompt discussions on various aspects, such as contextual variations among Zhuang text dialects, tonal characteristics, lyrics, and the significance of redundant syllables. As a result, a sound-bank of Zhuang songs has been developed and established through multi-perspective sound collections and deposited at the Audiovisual Research Collection for Performing Arts (ARCPA) archive at the Music Department, Faculty of Human Ecology, Universiti Putra Malaysia. This collection categorizes songs based on their regional origins and includes audio or video recordings, lyrics, dialect tones, and personal information about the singers.

This undertaking has contributed to preserving Zhuang songs and their natural context instead of the collected sound that detaches from its actual context via the conventional studio recording approach. The study has also promoted discussions on the proper

protection and research of Zhuang songs, emphasizing the importance of preserving both their cultural and linguistic aspects. Additionally, it has made the lyrics more accessible by helping people unfamiliar with the Zhuang dialect understand them through various transcription methods, such as the International Phonetic Alphabet (IPA), the Zhuang script, and English translation.

By examining the evolution of songs and their lyrics, the research has moved its focus from static commercial culture to dynamic living environments. It provides listeners with a more engaging experience by employing multi-angle recordings, which capture acoustic intricacies and tonal changes that are frequently overlooked with conventional single-source audio.

Keywords: Sound bank, Archiving, Preservation, Audiovisual recording, Zhuang songs

SDG: GOAL 11: Sustainable Cities and Communities

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Doktor Falsafah

**PEMELIHARAAN LAGU LAGU ZHUANG DI KAWASAN SEMPADAN
GUANGXI, CHINA, MELALUI RAKAMAN DAN PENGARKIBAN
AUDIOVISUAL**

Oleh

LIN ZHI

November 2024

Pengerusi : Profesor Madya Ahmad Faudzi bin Musib, PhD
Fakulti : Ekologi Manusia

Objektif utama kajian ini adalah untuk memberi sumbangan aktif dalam pemeliharaan lagu-lagu Zhuang dan mendokumentasikan hubungan unik antara komuniti dan lagu-lagu ini. Kajian ini juga mempunyai objektif penyelidikan berikut: mengkaji secara kritikal konteks amalan nyanyian lagu Zhuang, elemen bunyi, dan bagaimana contoh nyanyian ini diintegrasikan dalam fungsi sosial. Pendekatan ini diiktiraf sebagai kaedah yang berkesan dalam pengarsipan dan pengumpulan contoh lagu yang dirakam ke dalam bank bunyi pelbagai perspektif yang dikategorikan mengikut wilayah, jenis lagu, dan dialek, sambil mengintegrasikan alat kejuruteraan bunyi untuk peranti teknikal dan mewujudkan aliran kerja yang efisien untuk pembinaannya. Ini dicapai melalui prosedur yang direka dengan teliti yang melibatkan pengumpulan dan pendokumentasian rakaman audio lagu Zhuang menggunakan pelbagai perspektif bunyi dalam persekitaran akustik tradisional mereka. Bank bunyi yang dihasilkan berfungsi sebagai repositori komprehensif bagi lagu-lagu Zhuang, yang memenuhi keperluan tempatan serta persekitaran maya seperti muzium dan arkib.

Secara metodologi, tesis ini menumpukan pada rakaman audio lapangan dan penyampaian lagu Zhuang, yang hasilnya membentuk bank bunyi. Kandungan bank bunyi ini adalah merupakan rakaman vokal penyanyi, bunyi persekitaran sekitar, serta menyediakan pelbagai perspektif koleksi bunyi. Secara tradisional, lagu-lagu Zhuang dinyanyikan oleh seorang lelaki, wanita, atau kumpulan yang berada pada jarak tertentu. Walau bagaimanapun, koleksi lagu-lagu Zhuang sepanjang kajian ini, di mana setiap koleksi mengumpul tiga kedudukan rakaman yang ditetapkan, mengambil kira ciri ini berdasarkan keadaan teknikal serta penelitian pemetaan audio di persekitaran yang menyumbang kepada koleksi bank bunyi.

Kajian ini menggunakan kaedah kualitatif daripada etnomusikologi, Sains Arkib Bunyi, Penyelidikan tentang Penyampaian Pengetahuan Secara Lisan, dan Kajian Linguistik. Dengan mengintegrasikan disiplin-disiplin ini, kajian ini menganalisis secara menyeluruh lagu-lagu Zhuang, termasuk kepentingan budaya dan penyampaian dalam komuniti. Penemuan analisis mendorong perbincangan mengenai pelbagai aspek, seperti variasi konteks antara dialek teks Zhuang, ciri tonal, lirik, dan kepentingan suku kata berulang. Justeru, sebuah bank bunyi lagu Zhuang telah dibangunkan dan disimpan melalui koleksi bunyi pelbagai perspektif dan didaftarkan di arkib Koleksi Penyelidikan Audiovisual untuk Seni Persembahan (ARCPA) di Jabatan Muzik, Fakulti Ekologi Manusia, Universiti Putra Malaysia. Koleksi ini mengkategorikan lagu berdasarkan asal wilayah dan termasuk rakaman audio atau video, lirik, ton dialek, dan maklumat peribadi tentang penyanyi.

Usaha ini telah menyumbang kepada pemeliharaan lagu-lagu Zhuang dan konteks semulajadi mereka, berbanding dengan bunyi yang dikumpulkan yang terpisah

daripada konteks sebenar melalui pendekatan rakaman studio konvensional. Kajian ini juga telah mempromosikan perbincangan tentang perlindungan yang betul dan penyelidikan lagu-lagu Zhuang, dengan menekankan kepentingan memelihara kedua-dua aspek budaya dan linguistik mereka. Di samping itu, ia menjadikan lirik-lirik tersebut lebih mudah diakses dengan membantu orang yang tidak fasih dalam dialek Zhuang untuk memahaminya melalui pelbagai kaedah transkripsi, seperti Fonetik Antarabangsa (IPA), skrip Zhuang, dan terjemahan Bahasa Inggeris.

Dengan mengkaji evolusi lagu-lagu dan lirik-liriknya, penyelidikan ini telah mengalihkan fokusnya daripada budaya komersial statik kepada persekitaran hidup yang dinamik. Ia memberikan pengalaman yang lebih menarik kepada pendengar dengan menggunakan rakaman pelbagai sudut, yang merakamkan kehalusan akustik dan perubahan tonal yang sering diabaikan dengan audio sumber tunggal konvensional.

Kata Kunci: Bank bunyi, Pengarkiban, Pemeliharaan, Rakaman audiovisual, Lagu-lagu Zhuang

SDG: MATLAMAT 11: Bandar dan Komuniti Mampan

ACKNOWLEDGEMENTS

This dissertation is also a summary of the PhD study time. Thanks to my supervisor, Associate Prof. Ahmad Faudzi bin Musib, for patiently answering my questions and giving me detailed guidance during my studies; it was an honor to be his student. Thanks to Prof. Gisa Jähnichen for guiding me to pursue archival research, often sharing the latest publications with me and encouraging me to participate in various conferences and present my research findings boldly. I want to thank the 289 Zhuang singers from the Guangxi region who helped me during my fieldwork, especially *au* Guan, *au* Chao, *beix* Liu, *beix* Jian, and *beix* Ping. Finally, I am extremely grateful to my parents for respecting my decision and supporting me in completing my doctoral study.

This thesis was submitted to the Senate of the Universiti Putra Malaysia and has been accepted as fulfilment of the requirement for the degree of Doctor of Philosophy. The members of the Supervisory Committee were as follows:

Ahmad Faudzi bin Musib, PhD

Associate Professor
Faculty of Human Ecology
Universiti Putra Malaysia
(Chairman)

Camellia Siti Maya binti Mohamed Razali, PhD

Senior Lecturer
Faculty of Human Ecology
Universiti Putra Malaysia
(Member)

Indra a/p V. Selvarajah, PhD

Senior Lecturer
Faculty of Human Ecology
Universiti Putra Malaysia
(Member)

ZALILAH MOHD SHARIFF, PhD

Professor and Dean
School of Graduate Studies
Universiti Putra Malaysia

Date: 8 May 2025

TABLE OF CONTENTS

	Page
ABSTRACT	i
ABSTRAK	iv
ACKNOWLEDGEMENTS	vii
APPROVAL	viii
DECLARATION	x
LIST OF TABLES	xiv
LIST OF FIGURES	xv
LIST OF ABBREVIATIONS	xix
 CHAPTER	
 1 INTRODUCTION	 1
1.1 Background of the Study	2
1.2 Statement of the Problem	7
1.3 Significance of Study	10
1.4 Research Objectives	13
1.5 Research Questions	15
1.6 Limitation of the Study	16
1.7 Research Design	17
1.7.1 Technical Pre-Condition	18
1.7.2 Definitions of Terms	20
1.7.3 Organization of Thesis	23
 2 LITERATURE REVIEW	 24
2.1 Studies on Soundscape	24
2.2 Studies on Audiovisual Preservation Standards and Archiving	26
2.2.1 International Audiovisual Preservation Standards	26
2.2.2 The Current Status of Research on Audiovisual Archives in China	28
2.2.3 Metadata and Semantic Management	30
2.3 Studies on Zhuang Songs	31
2.3.1 The Study of the Cultural History of the Zhuang People	31
2.3.2 The Study of Zhuang Language or Lyric Books	32
2.3.3 The Study of the Melodic Analyses, Performance, and Functions of Zhuang Songs	34
2.4 Audiovisual Preservation of Zhuang Songs	36
 3 MATERIALS AND METHODS	 42
3.1 Sound Collections and Acoustic Ecology in Zhuang Music	43
3.1.1 Sound Recording Review of Zhuang Songs	44
3.1.2 Commercial Recordings	45
3.1.3 Personal Collections	50
3.1.4 Live Performance Recordings	52

3.1.5	Online Recordings	54
3.2	Sound Archival Sciences and Spatial Analysis in Ethnomusicological Field Recordings	60
3.2.1	Archival Preservation of Zhuang Songs	61
3.2.2	The Fieldwork Covered in This Study	68
3.3	Deconstruction, Linguistic Analysis, and the Soundscape of Zhuang Songs	76
4	RESULTS AND DISCUSSION	88
4.1	The Concept of This Sound-Bank	88
4.2	Recording Technique	96
4.2.1	Recording Workflow	97
4.2.2	Sample 1: Gantuoyan Cave, Napo County	101
4.2.3	Sample 2: Jiangbin Park, Pinguo County	109
4.3	Metadata of the Zhuang Song's Sound-Bank	112
4.4	The Words Used in the Lyrics	115
4.5	Ornamental Syllables	119
4.5.1	The Structure of the Vocables	121
4.5.2	The Stationarity of Basic Language Particles	126
4.5.3	The Positional Instability of Some Ornamental Syllables	128
4.5.4	Sound Changes of the Ornamental Syllables	131
4.5.5	The Role of Ornamental Syllables	135
5	CONCLUSION	138
	REFERENCES	141
	APPENDICES	149
	BIODATA OF STUDENT	168
	LIST OF PUBLICATIONS	169

LIST OF TABLES

Table	Page
1.1 Parameters of use and role of recording equipment	19
3.1 Medium or carrier issues	68
3.2 How the Zhuang people in Baise call the various branches and their songs	80
3.3 How the Zhuang people in Chongzuo City call the various branches and their songs	84
3.4 How the Zhuang people in Fangchenggang City call the various branches and their songs	86
4.1 The role of position 1	93
4.2 The role of position 2	93
4.3 The role of position 3	93
4.4 ARCPA Database	114
4.5 The metadata model of Zhuang songs	114
4.6 Two <i>hot</i> of in Jingxi <i>sei</i> “There is only you in my eyes”	123
4.7 Two <i>hot</i> in the song of <i>sei loiz</i> “Yingke Ge”	125
4.8 Comparison of Zhuang words used in the song “Tanqing Ge”	129

LIST OF FIGURES

Figure	Page
1.1 "Taking pride in hard work [以辛勤劳动为荣]". Jiang Chong & Mo Jinmei, eds, 2019: 17	3
1.2 Vinyl records in the Music Museum's storage room. Guangxi Museum of Ethnic Music	8
2.1 Singers singing at the Sanyuesan Festival in Longlin Various Nationalities Autonomous County, Baise City. 22 April 2023	38
2.2 Poster of the Zhuang Song Competition organized by the Government of Matou Town, Pingguo County	38
2.3 From 2018 to 2020, Lin Zhi guided primary school students to visit the Guangxi Museum of Ethnic Music	40
2.4 The multimedia playback and audio restoration of the 78rpm systems of the Guangxi Museum of Ethnic Music, 15 September 2023	40
3.1 Screenshot from CD Sample 1 " <i>Bainian Ge</i> "	47
3.2 Spectrogram visualization depicts a distorted audio signal waveforms, affected by a gate device control, hence showing straight line	48
3.3 Spectrogram of fake bird chirping	50
3.4 Screenshot from CD Sample 1 " <i>Bainian Ge</i> ," female singer's part. There is an over-signal on the one channel	51
3.5 Screenshot from CD Sample 1 " <i>Bainian Ge</i> ," male singer's part. There is an over-signal on the other channel	52
3.6 Distorted signal sample taken from "the 65th anniversary celebration of Pingguo Senior High School"	53
3.7 Edited signal sample taken from "the 65th anniversary celebration of Pingguo Senior High School"	54
3.8 Spectrogram analysis of the single-pitch playing repeatedly in the "Moonlight Love."	56
3.9 Dinding analysis of the single-pitch playing repeatedly. 22 January 24. ARCPA No 3094	56
3.10 Overall Project desk and Audio Compressor	57
3.11 Column A and Column B differs in its amplitude and decay length	58

3.12	(a) left: mixer with compressor/gate and reverb insert to the desired audio track and (b) right: Reverb plugins	59
3.13	Singer Yue Jianxiao shows the songbooks to the researcher	62
3.14	Old songbooks stacked in cardboard boxes	63
3.15	Songbooks from the collection of literary scholar Nong Ruiqun	64
3.16	Songbooks and Zhuang opera scripts in the collection of the Cultural Center in Daxin County	65
3.17	Some of the songbooks collected by Huang Guoguan	65
3.18	Audio magnetic tapes stored in a cabinet at Guangxi Arts University. Photo by Lin Zhi, 6 November 2018	66
3.19	Enric Gené and Adam Tovell explain archival damage and restoration of different materials	67
3.20	Different models of stylus and their handling introduced during the training (Photo by Lin Zhi, 27 August 2023)	67
3.21	Scheme of collecting “songs” are Fangchenggang, Chongzuo, and Baise	69
3.22	The hierarchical design model of Zhuang song sound-bank	71
3.23	The marks in the map are the locations where Lin Zhi collected the recordings in Baise City	72
3.24	The singers and Lin Zhi are talking in the pergola	73
3.25	The marks in the map are the locations where Lin Zhi collected the recordings in Chongzuo City	75
3.26	The marks in the map are the locations where Lin Zhi collected the recordings in Fangchenggang City	76
4.1	Sound-bank recording positions needed	89
4.2	Luo Jingchao (Right) and Pan Xiucan (Middle) are singing in the recording room. (Photo by Lin Zhi, 18 October 2016.)	90
4.3	X-Y Stereo (coincident pair) recording range at position one	98
4.4	The left and right channels of the X-Y stereo	99
4.5	X-Y stereo (coincident pair) (left) and near-coincident (right) microphone of sound collection range, drafted by Lin Zhi)	99

4.6	The environment when Wei Zhilian was in a conversation with Lin Zhi	100
4.7	Spectrogram of Wei Zhilian's singing	101
4.8	Natural caves in Gantuoyan. LON: 105.840557, LAT: 23.415094	102
4.9	Nabo County 2017 Spring Festival Zhuang singing competition	102
4.10	Nabo County 2018 Sanyuesan Festival singing competition	103
4.11	Luo Jingchao (male) and the female singers are singing in the Gantuoyan Park	104
4.12	Left (Male) and right (Female) channel level diagram of the singer singing separately	104
4.13	Amplitude of the wave-picture	105
4.14	A screenshot of a female singer's singing in a spectrogram in the cave	105
4.15	A spectrogram from the recording in position two	106
4.16	This spectrogram shows the movement of a complete ambulance sound from far to near and then gradually disappearing forming the Doppler effect	107
4.17	A group of singers who were singing in Jiangbin Park, 9 September 2023	109
4.18	Voice track	110
4.19	A group of singers who were singing in Jiangbin Park, 17 October 2022	111
4.20	Spectrogram of an ambient sound captured in the recording at position three	112
4.21	The recording of Jiangbin Park position 1	113
4.22	Scheme of word order and elements in Zhuang	116
4.23	Huang Guoguan demonstrated to Lin Zhi how to type with the ancient Zhuang character input system	117
4.24	Huang Guoguan and Luo Jingchao are writing ancient Zhuang characters	118
4.25	Three pages of local Zhuang songs books published in the three different destinations Longlin County of Baise City, Shangsi County of Fangchenggang City, and Daxin County of Chongzuo City	119

4.26	The score of the beginning tone and the audio of “There is only you in my eyes” QR code	123
4.27	The audio of “Yingke Ge” QR code	124
4.28	One of the vocables often used at the end of the type <i>luenx yang</i>	127
4.29	The audio of “Tanqing Ge” QR code	129
4.30	Music notation of <i>hot 2</i>	130
4.31	The audio of “Langhua Ge” QR code	132
4.32	Music notation of the excerpt of “Langhua Ge”	133
4.33	The audio of “Where friends come from” QR code	134

LIST OF ABBREVIATIONS

AMIA	Association of Moving Image Archivists
ARCPA	Audiovisual Research Collection for Performing Arts
DCMI	Dublin Core Metadata Initiative
FIAF	International Federation of Film Archives
IAML	International Association of Music Libraries, Archives and Documentation Centres (later additions)
IASA	International Association of Sound and Audiovisual Archives
ICA	International Council on Archives
NCSA	National Center for Supercomputing Applications
OCLC	derived from an international organisation providing shared services at the Ohio College Library Center which got then the meaning of an International Library Computer Centre
SEAPAVAA	Southeast Asia-Pacific Audio Visual Archive Association
VHS	Video Home System



CHAPTER 1

INTRODUCTION

Digital processing and storage, in combination with a knowledgeable description known as metadata, have long been the best means and methods for effectively rescuing and depositing data as archive materials. On this foundation, the use of contemporary technology to deal with the sound quality of these original audio materials can be achieved by retaining their original content and obtaining high-quality audio files that can be used for a more extended period of time without losing quality.

For future scholars majoring in music during their study time, music scores exist throughout their academic careers. However, with the current state of technology, it is impractical to convey the teaching and scientific research processes of music academicians solely through music scores separated from the actual musical sound. Libraries or museums of various professional music colleges in China contain many poorly stored audio materials and other media from different time periods. As a text file, it is relatively convenient to edit the music score according to the teaching content and progress, while the sound materials are not at hand. To cite a popular saying: ‘Hard rock can still be weathered, and steel can also corrode’; with the changes and passage of time, the early materials have been on the verge of invalidation.

Moreover, these non-stone and non-ferrous plastic materials and tape carriers have existed for decades. If these unstable media (tapes, shellac records, 78 rpm, and some other visual materials) are not protected in a timely manner, they will be not retrievable. Audiovisual materials can be digitized if current technological processing

methods are used, and storage processing can save and protect valuable materials giving them a changed role in teaching and scientific research. The digitization and scientific cataloguing of music and audio materials in audiovisual databases makes it possible to integrate them with the library system via a link embedded with the physical content as metadata. In result, users can easily browse and acquire access via the library campus network or intranet.

1.1 Background of the Study

There are 56 ethnic groups in China (The State Council of the People's Republic of China, 2014). The Zhuang are one of the most populous minority ethnic groups in China; the majority of Zhuang people reside in southern China, such as Guangxi, Yunnan, Guangdong, Guizhou, and Hunan. According to the data published in the Guangxi Statistical Yearbook 2021 by the China Statistics Press, the total population of Guangxi Zhuang was 18,577,200 as of January 2021, accounting for 32.49% of the total population (2021). Some locals affectionately know the Guangxi Zhuang Autonomous Region as the “The sea of songs.” It is also known as the main settlement of the Zhuang. The historical cultures of the Zhuang people provide an environment for the formation and development of the Zhuang people's music. Zhuang songs are strongly intertwined with the culture of the Zhuang. There are numerous diverse tunes in Zhuang songs, which vary in melody, style, and accent depending on where one is positioned in the Zhuang area. They have in common that the love stories and production processes may have the most visible impact on songtext shapes.

The area bordering the western half of Guangxi Zhuang Autonomous Region, Yunnan Province, Guizhou Province, and Vietnam is mentioned in this study. It refers to the

three cities of Baise, Chongzuo, and Fangchenggang in particular. Zhuang people use songs to express their thoughts, emotions, desires and their will. Baise City, Chongzuo City and Fangchenggang City are the multi-group settlements with sufficient traditional song resources, and the variety of songs is relatively concentrated, providing convenient conditions for field investigation. In terms of the research scope, the primary focus lies on Zhuang songs in these three cities.

The preservation of traditional festivities is evident in urban areas. Spontaneous song fairs occur in all towns and villages from March to April on the lunar calendar, complemented by the officially organized “March third on the lunar calendar festival.” Apart from showcasing traditional Zhuang songs, vocalists incorporate contemporary politics and culture into their performances, creating lyrics that advocate for the value of hard work, as demonstrated in the following text-piece. (Figure 1.1).

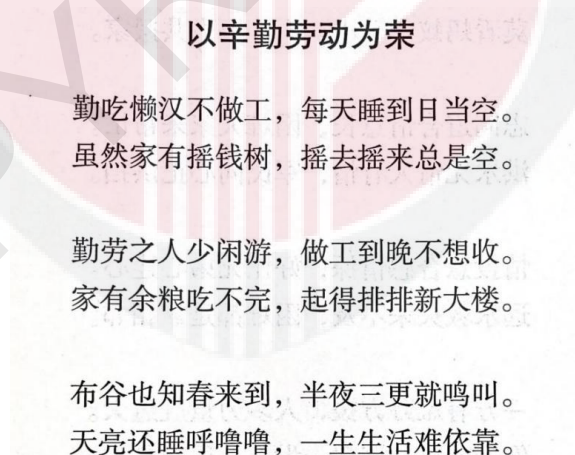


Figure 1.1 : “Taking pride in hard work [以辛勤劳动为荣]”. Jiang Chong & Mo Jinmei, eds, 2019: 17¹

¹ A translation by the author of the above song is:
A man who eats a lot but does nothing, and stays up very late.
Even though he is rich, he will be poor one day.

Therefore, the content of Zhuang songs will be different every year. In this study, the lyrics are used to distinguish the rhyme of the words and analyze the characteristics of songs. The performer will add a lot of syllables while singing, but these syllables will not appear in the written lyrics. Hence, this outlines the textual singing guides of Zhuang songs based on the differences between the two versions, the written source and the real singing.

Extensive collections of audio-visual archives and different versions of music scores for various majors, including classic performances, studio recordings of songs, and rare and unique books, can be found in the libraries of professional music colleges in China. However, as noted in IASA TC-03, preservation circumstances vary from place to place, and there is a limited number of skilled audio-visual preservation personnel, leading to challenges with handling and standardization (Prentice & Gaustad, 2017). While various recording tools and devices have evolved, their ability to produce high-quality audio as well as their technical capabilities are appealing. These are in marked contradiction to the technological capabilities of the 1960s. China was at a crossroads politically at the time, which included some aspects of preservation. This was because the singing of Zhuang song texts was prohibited from 1966 to 1976.

On the one hand, this is also why the current Zhuang song singers are over 40 years old on average. After experiencing the silence of the Cultural Revolution, it was in the 1980s that singing Zhuang songs slowly re-entered the community's imagination.

A man who is hard-working everyday, works through day and night,
He does not want to rest, and grows more prosperous.
When spring comes, the cuckoo starts to chirp at 3a.m.,
The lazy man who sleeps at dawn, he will eventually make life difficult.

Still, during this period, parts of the singing could not be reproduced or disappeared irreversibly over time (Huang & Lin, 2023). On the other hand, due to the rapid economic rise after China's reform and opening-up, and the proclamation of multiculturalism, most Zhuang people left their areas to work among others in farther away provinces and cities (Luo & Lin, 2023). Younger generations born around 1990 were not taught any awareness of inheriting singing practices, so, singing was also widely changed (Guangxi Zhuang Autonomous Region Bureau of Statistics, 2018).

There is a need to show more sustained efforts. Also, research project outcomes should be available to the public. Most of the Guangxi Zhuang Autonomous Region's audiovisual music resources are kept in libraries, archives, universities, museums, and among individual collectors. These audiovisual archives have not been digitized, and due to the lack of archival expertise of the staff, a large number of audiovisual materials are stored, both from the perspective of growth and utilization, resulting in the weakening of the value of its audiovisual archives (Chu, 2022:79). The utilization of the Zhuang's audiovisual archival resources is relatively traditional; for example, the Nanning Museum, Guangxi Museum of Nationalities, Guangxi Museum, and other cultural institutions in Guangxi possess a wealth of audiovisual materials, including songs and moving images, mainly related to the Zhuang group. These materials often encompass songbooks in various formats, including Zhuang language in ancient characters, modern Zhuang characters using an alphabet, and Mandarin translations. No audiovisual archives in this regard are containing Zhuang songs using sound-bank methods.

At the border of Guangxi, in this study, the songs of the border area are established as a sub-database (of a bigger unit), and the resources of the songs are deeply explored through the creation of sound-banks. “Cultural resources play an important role in the future. They not only deliver information but also personal relatedness that is not replaceable by artificial intelligence. The maintenance and creative development of cultural resources is actually crucial to not only serve identity features of.....whatever group of people (Jaehnichen, 2018:).” Zhuang songs are not only diverse in variety, flavor, and style due to variances in the natural environment and descriptive dialects. To make Zhuang songs more efficient, one has to preserve and makes them accessible to the public and future generations. Collecting and organizing Zhuang song data into distinct characteristic sub-databases is essential. The gathered songs' geographical content and some temporal aspects should be thoroughly documented. Detailed information can assist in finding solutions to challenges encountered during construction. To promote accessibility and collaboration, scholars and the Zhuang community should adopt an open-source approach to Zhuang songs by using sound-banks, which consider spatial perspectives of listening. Constructing sound-banks for Zhuang songs encourages their ongoing preservation and evolution while meeting the needs of researchers studying music who want to study Zhuang songs in depth in three dimensions and at multiple levels. This method considers several factors, including different dialects, tonal qualities, lyrics, and redundant syllables from various viewpoints. This holistic viewpoint facilitates the identification of singing locations and unique landmarks within each geographic area.

1.2 Statement of the Problem

The background of this study, as defined above, suggests several aspects that must be considered. As a basis for the study, this study identified the problem as threefold.

Basis on the observation, the existing archives were widely used in the context of Chinese tertiary education institutions systems, resulting in only university or authority people being able to view or use them. In contrast, actual Zhuang people were unable to do so. The majority of the valuable files of Zhuang songs related to historical music files are held in archives and regional archives, libraries, museums, and other institutions. However, actual conditions such as preservation conditions, vary from place to place, limiting archive's professionalization. For example, a batch of manuscripts and audio-visual artefacts collected in the Guangxi Art University's collection in 1983 is currently undergoing emergency repair and preservation. Restoration and preservation are essential tasks for existing archives. However, there is still the issue of these materials needing to be more inaccessible to the outside world due to administrative difficulties and the majority of them not being returned to the original survey area and the hands of the surveyed person (Figure 1.2).



Figure 1.2 : Vinyl records in the Music Museum's storage room. Guangxi Museum of Ethnic Music
(Photo by Lin Zhi, 11th May 2019)

This study highlights the most pressing issue, which is the need to provide easy access to the Zhuang song library for the majority of Zhuang people. As a result, this study can update the descriptive metadata on the Zhuang sound collection at any time. The audiovisual archive history for Zhuang songs is slow compared to the development of digitizing in China. At the end of 2014, the Chinese government issued the Technical Specification for Digitization of Audio and Video Archives. In August 2017, the archival industry-standard Specification for Digitization of Audio and Video Archives (DA/T 62-2017) was formally released, which came into effect from 1 January, 2018, onwards. Audiovisual archives are commonly found in public institutions such as museums and libraries, the number of audiovisual archives that have been digitised is minimal concerning the entire collection, even though the exhibition environment has been constantly updated and the playback equipment optimised during the construction process. Due to various reasons, many materials have not been set to open permissions, they are not digitized and do not have playback facilities; they are stored as objects in the library's rare materials collection, with no open access, and the

audience of listeners is not extensive (Chu, 2022: 80). Preservation is necessary to ensure permanent accessibility; yet preservation is not an end in itself. Without the objective of access, it has no point (Edmondson, 2004: 19).

In the information age, databases will increasingly become an efficient tool for people's daily learning and research. The concept of "openness and sharing" will gradually become the primary source of knowledge. Item 21 of the General Rules for the Work of Archives, the current Chinese archival law concerning to the protection of archives, indicates that archives shall provide visitors with copies of their archives instead of the originals, and the sources of archives shall not normally be loaned out of the library; if there is a particular need, they may be loaned out periodically only with the approval of a trustworthy and competent leader (General Rules for the Work of Archives in the People's Republic of China, 1983). Museum resources of public universities should be opened to the society; it may become a social consensus. A long-term mechanism of opening and sharing needs to be established to make the museum resources of universities open to the community in an orderly manner and allow the public to share the resources of universities (Bing, 2019). The newly revised Archives Law of the People's Republic of China, which took effect on 1 January, 2021, still needs to mention policy regulations for managing audiovisual archives. At present, China's archival laws do not contain a unified system for the opening of audiovisual archives; there are only three standards, but they have not been formulated in a uniform manner, which has led to a lack of rules and regulations for various units and institutions to follow in actual operation (Li & Zhang, 2021: 57).

Regarding the current situation, constructing a database based on authentic archival items of Zhuang songs in China has yet to take shape. This research will help collect, summarize, and further digitally process and store Zhuang songs with many tunes and then open them to the public through public institutions such as museums and their topical archives. Culturally significant museums can present music in a more positive way to viewers. They can raise awareness of changes in space-time perception and convert people's perceptions of Zhuang songs from static cultural notions to dynamic narratives encompassing the songs' history and spatial transformations. These elements lead to a complete understanding of the Zhuang people's living environment.

1.3 Significance of Study

This undertaking contributes to preserve some Zhuang songs and their actual practice instead of just keeping the sound alone. It may promote the discussion of the reasonable protection and research of Zhuang songs and lead to the development that more people who do not know the Zhuang dialect to understand the text of Zhuang songs. Although different recording tools have appeared now and can technically restore the recording very well, they had other conditions before the 1960s. The 1960s were chosen because of the political issues China experienced at the time, which involved numerous preservation areas. From 1966 until 1976, the prohibition on performing Zhuang song texts had a tremendous impact on individuals such as He Yulan, a singer who has been a singer since the age of 11. Before her introduction to singing, she recalls hearing her mother and grandmother sing quietly at home due to government limitations. Even though singing was forbidden, the need to sing persisted, even though no one else could hear them (He & Lin, 2021). This period also

contributes to the finding that current Zhuang song singers are over 40 years old on average.

After experiencing the silence of the Cultural Revolution, it was not until the 1980s that the singing of Zhuang songs slowly re-entered the community's vision, but during this period, parts of the singing could not be reproduced or disappeared irreversibly over time. On the other hand, due to the rapid economic rise after China's reform, opening politics, and the proclamation of multiculturalism, most Zhuang people left their areas to work among others in faraway provinces and cities. The absence of understanding and inheriting singing customs among adolescents has resulted in broad alterations in singing practices. As a result, it is critical to use audio and video recordings to capture the changing state of Zhuang songs and their lyrics before they are lost forever. This documentation will be an essential historical record from which society hopefully can learn.

The study looks at the viability of developing audiovisual archives dedicated to Zhuang songs to address current demands within the local population and the virtual environment, such as museums and archives, whether nearby or far away. Such archives would improve the museums' ability to communicate sounds to their audiences and heighten people's understanding of time and space perception differences. Zhuang songs have been studied from various angles. These studies will constitute the background and essential materials for a first departure. As a result, the research will help transform the static thinking of prominent consumer culture into an understanding of dynamic living spaces, including the history and transformation of songs and their texts.

The Chinese government actively supported the preservation of intangible cultural treasures starting in the 1990s. This emphasis on safeguarding resulted from the historical background in which China's cultural heritage preservation prioritized tangible cultural heritage until the advent of Reform and Opening-up policies in 1978. During that time, folklore was the only symbolic means of preserving intangible cultural assets. After implementing the reform and opening-up policy, the government, academic institutions, and organizations of the civil society gradually understood the significant historical significance of intangible cultural heritage. Growing awareness of inheritance prompted the introduction of "salvage protection". Joint endeavours produced several projects to preserve intangible cultural assets. The creation of laws aimed at protecting intangible cultural heritage was eventually made possible by this group effort (Yi et al., 2021: 66). Many music research institutions, such as the Chinese National Academy of Arts, the Shanghai Conservatory of Music, and the Guangxi Arts University, have produced many fieldwork music materials in the shape of audio and video recordings. The first organized, planned and guided large-scale social science comprehensive fieldwork in Chinese history can be traced back to the 1950s, which lasted for more than ten years and obtained much first-hand information about Chinese folk music (Wu, 1991). The audio recordings collected during this time were included in UNESCO's "Memory of the World" Programme in 1992, and the "Chinese Traditional Music Sound Archives" built on this basis has been officially released to the public through a digital platform in 2022 (Shao, 2022).

Zhuang songs have also been collected in large amount. Most historical sound and video documents are organized in archives, libraries, museums, and tertiary education institutions such as Guangxi Arts University. However, actual conditions such as

preservation conditions vary from place to place; there is no active archiving beyond sporadic copying for other uses practiced, which brings limitations to the professionalization of archives. For example, a batch of manuscripts and audiovisual materials collected in 1983 from the Guangxi Art University collection are currently under emergency restoration and preservation. On the one hand, restoration and preservation are essential tasks for existing archives. Still, on the other hand, there is also the problem that these materials need to be opened to users, and most of them are not even returned to the original survey area and the hands of the surveyed person. Therefore, researchers and Zhuang people must establish an open Zhuang songs archive that cares about all facts, including practicing habits in specific periods of time.

Resources of the songs have to be more deeply explored through the creation of sound-banks. Built Zhuang song sound-banks is not only conducive to the protection and inheritance of the songs, but it is more conducive to satisfy the three-dimensional, multi-level learning and scientific research needs of music researchers. With multiple sound-banks, users are able to be in an 'acoustic space' through auditioning each sound-bank, which comprises of multi angle audio files without being physically present in that actual space. Further, recordings in multiple sound archives enable one to hear sound in a space with its multi-layered dimension (Musib, 2015).

1.4 Research Objectives

This study focuses on the selection of songs of different melody types from Zhuang areas along the Guangxi border as the main object of study. This study aims to demonstrate the importance of archiving songs from different areas of Zhuang. The

main objective is to establish a public Zhuang song soundbank based on the recorded sound samples according to the standard model² as developed in earlier studies. Pijanowski et al. (2011) followed the method proposed by Bernie Krause to describe the composition of soundscape from the perspective of a sound source (Krause, 1987) and further divided soundscape into three components: Biophony, geophony (such as wind, rain, and running water), and anthrophony. These sounds emanate from a landscape and vary over space and time, reflecting essential ecosystem processes and human activities. The generation of Zhuang songs is inseparable from their living environment. With the change of times, the places, customs, and ways of Zhuang singers singing have also changed to varying degrees. Therefore, inspired by the above theory of soundscape ecology, this study pays attention to the sound collection in the environment where singers perform during the early recording collection stage of the sound-bank. This undertaking contributes to making the preservation of Zhuang songs more effective and may promote the discussion of reasonable protection and research of Zhuang songs.

This study aims to address these issues by:

- i. Developing sound ecological perspectives that advocate for multi-perspective preservation, emphasizing the Zhuang song and its unique connection to local communities.
- ii. Examining the context of Zhuang song singing practice critically, the sound elements, and how the singing samples are integrated into social functions.
- iii. Compiling recorded song samples into an archive of spatially arranged multi-perspective sound-banks; it is categorized by region, song type, and dialect.

² Dublin Core™ User Guide, <https://www.dublincore.org/resources/userguide/>

Develop tools such as sound engineering for technical devices and establish efficient workflows for the construction of this archive.

1.5 Research Questions

The central problem to be researched in the proposed study is how the sound-banks provide support for the preservation of the Zhuang song practice. Also, a matter of concern is that there are four main categories into which Zhuang songs' searchable audio and video resources may be separated: commercial items, personal collection, on-site recording, and network audio and video resources. There is a fundamental similarity between these audio-video resources: the vocal voice was clear, but the sound of the surrounding environment was deliberately avoided. In reality, when Zhuang people sing, there is not always silence around them. This study pays attention to the contextual sound alongside the sound of the song rather than artificially removing the contextual sound as noise. The contextual sound is of equal importance to the intentional sound (Musib, 2015). This study intends to digitally collect and organize the Zhuang songs through soundbanks, combining the collected Zhuang song sound samples into a soundbank archive open to the public. It is based on background information about the border groups in Guangxi and on a critical review of existing research results. They are making it available in a flexible way and through knowledge of technical equipment for scientific use by the collected subjects, researchers, and the public.

Additionally, there are some important research questions that both focus on sound:

- i. Which sound components are essential to singing Zhuang songs, and how do they enhance the entire musical experience?

- ii. How much influence does the surrounding environment have on communities' efforts to preserve Zhuang song's essence?
- iii. What are the different perspectives shared by members of the community about the importance of Zhuang singing, and how do such opinions support its preservation?
- iv. What is the best way to classify recorded Zhuang song samples into a multi-perspective sound-bank considering contextual elements specific to the area, such as dialects and usage locations?
- v. What conditions must be taken into account while creating sound engineering tools and procedures in order to successfully build a varied collection of Zhuang songs?
- vi. What perspectives do locals offer while assessing the sound-banks, and how does this input add to the sound-banks' cultural significance?

1.6 Limitation of the Study

The limitations of this study will firstly be the Zhuang songs in the border areas of Guangxi. They do not include all Zhuang songs used in the past and present. As a storage medium, the audio-visual documents collected in the sound-banks should be taken in various ways as a tool for recording Zhuang songs. Just as no one can step into the same river again, the same singer is not singing the same song again. The song will be different. So, all recording samples represent the sound ecology at the recording time. In some sample recordings, it will not be possible to start recording the singers while they are singing spontaneously. Although the sound-banks consider the background of the sound at each position, ensuring the clarity of the singer's singing is also an aspect that needs to be taken into account in one place to make the singing more understandable to a broader audience.

Another limitation is that the field data collection time needs to be increased to make observations as comprehensive as necessary. There are other song melodies and different singing occasions that have yet to be observed and collected, and of course, local terms need to be sufficiently reported here.

The method used by the author entails first reaching out to the vocalists through a semi-structured interview to understand and capture their spoken Zhuang dialect. The vocalists are then asked to read the lyrics out loud before beginning to sing them. Although this strategy aims to capture the singers' song texts accurately, it must be recognized that this method may cause the Zhuang singers to perform less spontaneously. Also, this may limit the variety as lyrics have to be prescribed.

This thesis will use lyrics to find the rhyme of words and analyze the characteristics of songs, texts, and musical structures. During the actual singing, singers often incorporate numerous redundant syllables, which must be reflected in the written poems, the primary source material for lyrics. This additional layer becomes crucial during the analysis of song texts. Thus, it is essential to recognize that the straightforward poems represent the textual aspect and not solely the complete rendition of the songs. These added values become indispensable for comprehending the significance of these songs within the described period.

1.7 Research Design

The research design is based on the explained stages of the study:

- i. To elaborate on the collected Zhuang song sound samples along the border areas of Guangxi. Observation towards the tones of different Zhuang dialects in the border areas of Guangxi and analyzed the impact of singing them on

songs. This includes the actual lyrics of the song, the words and syllables without actual meaning, comparing the difference with the lyrics recorded in a songbook. Analyzing the patterns of words without actual meaning in the singing process and their importance.

- ii. To suggest technical requirements and proficiency in operating all kinds of audio equipment for high-quality audio recordings. The audio recording method and competency criteria, such as all kinds of microphones, distances, locations, and polar patterns suited for the following sources must be well understood. Songs come with words and some singing syllables without actual meaning. Patterns of words without actual meaning also exist.
- iii. To develop sound-bank content through descriptions and findings. The sound-bank content is created during the recording by diverse positionings of mics in three perception points (from the viewpoint of the producer = 1; from the viewpoint of the direct addressee = 2; from the viewpoint of a passerby = 3).

1.7.1 Technical Pre-Condition

Sound-bank recordings are to give a choice of spatial listening perspectives. These recordings have to be conducted at the same time with the same people, in the same context of sound production. It seems that collecting sound for one's own research output in the shape of writings and publishing is a specific traumatic issue and regarded as a bit selfish in a historical way (Jähnichen, 2022: 42). There is no aim to sell the recordings or to use them for cleaning-ups. Treating sound as knowledge is not limited only to the instrument and musician, but the soundscape itself. Therefore, this approach should also be part of an archivist's field of view. The side sound that includes spatial information and other surrounding sounds captured are not only meant for today's research in sound studies but also for future use (Musib, 2016: 96).

During the recording, the three recorders used by the author are ZOOM H1N, TASCAM DR-07X, and ZOOM H5, which are placed from near to far. All are handheld stereo multi-track recording equipment, and on the top is a shape “X-Y” capacitive microphone.

Table 1.1 : Parameters of use and role of recording equipment

Position	Devices	Descriptions
1	ZOOM H1N	The device features a 2-track record and playback system with a built-in stereo microphone that utilizes a unidirectional condenser in a 90° XY coincident pair stereo format. It offers control options through on/off switches for various functions, including the Lo-cut Filter, Limiter, Test Tone, Slate-Tone, and Voice Emphasize Filter. It supports multiple recording formats, including WAV at 44.1 kHz/16-bit, 48 kHz/16-bit, 48 kHz/24-bit, and 96 kHz/24-bit. The A/D and D/A conversion is performed at 24-bit with 128x oversampling. For storage, it utilizes micro SDHC cards with a maximum handling capability of up to 120 dB SPL. Able to capture two sound angles of the male and female singers at proximity. Hence able to distinguish the two adjacent group of singers at one spot.
2	TASCAM DR 07X	The DR-07X Stereo Digital Audio Recorder is a versatile 2-track recording and playback system equipped with an integrated stereo microphone featuring a unidirectional condenser in a 90° XY coincident pair configuration. This microphone setup offers a wider pickup angle, allowing for flexibility in capturing audio from various sources. Equip with stereophonic positioning as XY coincident or its movable microphone capsule able create an Eagle Eye positioning for wider angles making it particularly well-suited for recording large groups or diverse contexts. These condenser microphones exhibit exceptional sensitivity, enabling them to capture sounds ranging from soft to loud, with a maximum handling capability of up to 125 dB SPL.
3	ZOOM H5	Best to capture two or more sound at an angle of the male and female singers in various at part of the at proximity. Hence able to distinguish the two adjacent group of singers at one spot.

1.7.2 Definitions of Terms

The System of Listing Representative Items of China's Intangible Cultural Heritage:

This system is one of the four primary systems for safeguarding intangible cultural heritage established in the Intangible Cultural Heritage Law of the People's Republic of China, which was adopted at the nineteenth meeting of the Standing Committee of the eleventh session of the National People's Congress in February 2011, with the aim of protecting the intangible cultural heritage of China (Zhu, 2021). At present, China has established a four-tier listing system with Chinese characteristics at the national, provincial, municipal, and county levels.

Administrative Division: According to the Constitution of the People's Republic of China, the country's administrative units are currently based on a three-tier system.

1. The country is divided into provinces, autonomous regions and municipalities directly under the Central Government;
2. Provinces and autonomous regions are divided into autonomous prefectures, counties, autonomous counties and cities;
3. Counties, autonomous counties and cities are divided into townships, ethnic minority townships, and towns.

Folk Song: "Folk music is a part of the traditional music culture of all countries and ethnic groups in the world that is both ancient and modern. It is a social music and cultural product created and passed on to the public in their daily life through oral inheritance or exceptional scores, which are not professionally created by an

individual” (Wu, 2023: 8). Folk songs are a part of folk music. All Zhuang songs in this study refer to folk songs.

Antiphonal singing: The two groups of singers take turns in singing. The number of people singing Zhuang songs differs according to the region; there are one versus one, two versus two, one versus many, and many versus many.

duì gē: This refers to the question-and-answer singing style between male and female singers that is common in Zhuang songs, with the number of male and female singers varying from region to region.

Sam Nyied Sam: The 3rd day of the 3rd month of the Chinese lunar calendar is one of the most important festivals of the Zhuang minority group. Zhuang people celebrate with singing, dancing, games, and unique local food. Before the 1970s, young Zhuang men and women sang songs during festivals to find mates.

guh fwen: Zhuang words. “fwen” is one of the types of Zhuang song with textual lyrics characterized by five words per line. Widman (2019: xiii) explained that *fwen* is a traditional strophic singing style common to the Zhuang living along the Youjiang River basin in Guangxi, China. “gu” is the verb “to sing”, and *guh fwen* means singing, a dialectal term used by the *raeuz* branch of the Zhuang.

nyaemz sei: Zhuang words, “sei” is one of the types of Zhuang song texts with lyrics characterized by seven words per written line. “nyaemz” is to sing, and *nyaemz sei* means singing, a dialectal term used by the *yang* branch of the Zhuang.

haet luenx: Zhuang words, “*luenx*” is one of the types of Zhuang song in Napo County, Baise City. “*haet*” is to sing, and *haet luenx* means singing, a dialectal term used by the *yang* branch of the Zhuang in Napo County.

gauq tanz: One of *luenx*’s tunes. This tune is usually sung outside of the house.

zungq tanz: One of *luenx*’s tunes. Singers can sing this tune both outside and inside.

diq tanz: One of *luenx*’s tunes. This tune is usually sung indoors.

luenx tanz: One of *luenx*’s tunes.

hot: It can be understood as each unit in a lyric, usually consisting of two sentences.

liao: It refers to a Zhuang song circulating in Pingguo County, Baise City. It is a two-voice song. This type of Zhuang song is characterized by the fact that each line ends with the word “liao”.

X-Y Stereo (coincident pair): The two microphones at the top of the recorder are placed at a 90 degree angle.

Near-coincident: The two microphones at the top of the recorder are placed at a 110 degree angle. This pattern picks up a wider range of sound sources than the X-Y mode.

Ornament: A syllable that a singer improvises before and after the main melody.

Ornamental syllables: In the process of singing, in order to preserve the integrity of the song interpretation, the singer intersperses some decorative words composed of modal words, phonograms, homophonic words, or appellations in the text lyrics.

Tones on smooth syllables: Ending on a non-stopping sound. Refers to the six types of tone in the Zhuang dialect where the airflow is not hindered.

Tones on syllables with plosive sounds in the text (checked syllables): Ending on a stop sound, either -p, -t, or -k. Refers to two tones in which the airflow is hindered, and the sound is short in the language tone of Zhuang.

1.7.3 Organization of Thesis

In summary, the research approach will begin with listening to the collected sound samples and then describing the song-text structure analytically. Following that is the development of sound-bank content through descriptions and findings, which leads to suggesting technical requirements and proficiency in structuring the sound-banks as the final process.

Table 1.2 : Process of this Study

Workflow	
1	Describing the song in context and its condition in different area through collecting of sound samples, and carry out a critical analysis as well as reviewing audio recording quality of commercial production, personal collections, live recordings, online recording.
2	Suggesting the concept of capturing songs within their contextual framework to support a multi-perspective preservation of audiovisual documents.
3	Sampling songs in the context of the two different dialects, examining tonal characteristics, lyrics, and redundant syllables from various perspectives, which helps identify singing sites and landmarks in each geographical region.
4	Assembled, categorized songs within their local contexts using an electro-acoustic workflow, resulting in the creation of sound-banks that position these samples and accessible via the Audiovisual Research Collection for Performing Arts.

CHAPTER 2

LITERATURE REVIEW

2.1 Studies on Soundscape

The rapid development of network information technology the mode and speed of communication are becoming more and more diverse and fast. Recordings of Zhuang songs that are available on social media today show various types and various timbre classes determined by different sampling rates, the choice of microphone placements, and the acoustic environment without having a slightest idea of what these technical perspectives mean. Zhuang songs hold significance in the lives of Zhuang people residing in the border areas of Guangxi. However, the unique sound environment of these songs is often overlooked in live performances and audio recordings.

The term “soundscape” was historically first coined by Southworth (1967), who defined it as all the sounds present in an environment. Schafer (1969) founded Acoustic-Ecology, calling for attention to sound in the environment and its interaction with human activities. These two were essential founders of soundscape research. In contrast to conventional noise studies, soundscape research not only examines the physical properties of sound but places greater emphasis on the integrated effects of ecological, social and psychological dimensions. Steven Feld (1992) coined “acoustemology”, which unlike acoustic ecology, is about the experience and agency of listening histories, understood as relational and contingent, situated and reflexive (Feld, 2015, p.15). Pijanowski et al. (2011) followed the method proposed by Bernie Krause to describe the composition of soundscape from the perspective of a sound source (Krause, 1987) and further divided soundscape into three components:

biophony (sounds generated by organisms, geophony (environmental sounds) and anthrophony (human sounds). These sounds emanate from a landscape and vary over space and time, reflecting essential ecosystem processes and human activities. The concept of soundscape treats the acoustical sound environment as multi-dimensional branches based on the interaction between sound sources (type of the source, features of the source, sound level power and duration of the source), physical environment (physical factors, seasonal factor and topographical factors) and human being (sociological factors, psychological factors, sensational factor and cultural factors) (Eleinen et al., 2016: 10). With the acceleration of urbanisation and the growing prominence of environmental issues, soundscape studies have progressively emerged as an interdisciplinary unit, encompassing acoustics, ecology, psychology, urban planning, and public health, among others.

Musib (2015) developed a contextual sound preservation model for preservation studies of string and percussion instruments in Annah Rais, Borneo. He aims to use sound as a reference or proof of future work or even as an extension of human hearing with more effective and comprehensive content. He emphasized that sound in context is not limited to what one hears in his or her environment. The review of soundscape research, its current research landscape, and how it began showed that the focus was on the role of sounds in local culture and the environment. Zhuang songs show a natural link between these musical traditions and the sounds of the environment in the Zhuang region. The categories and melodic structures of Zhuang songs were different in each village. Such distinctions proved unavoidable even within the same ethnic group. Nevertheless, what underlying factors evoked these divergences? This study

examines Zhuang songs and their survival environment in the border areas of Guangxi to explore how they are related to it.

2.2 Studies on Audiovisual Preservation Standards and Archiving

This part looks at the core theories and practical methods of audiovisual preservation standards and archiving techniques. It also looks at how they can be used to protect archives of Zhuang folk songs in the border areas of Guangxi by carefully examining the results of international research. The literature selection spans cultural heritage conservation, digital archive management, and ethnomusicology.

2.2.1 International Audiovisual Preservation Standards

The word “ethnic music,” first used to describe recordings from non-Western civilizations since the early 20th century, was created by Canazza et al. (2010). Numerous carriers (such as wax cylinders, sonofilms, discs, tapes, and cassettes in the analog domain; magnetic tapes and optical discs in the digital domain), varied formats, ethnic groups, geographies, and researchers are some of the problems involved in documenting, researching, and preserving it. In ethnomusicology, music is an integral component of cultural and social life, encapsulating information about the cultural context in which it was produced. Technically unskilled researchers often make these recordings and need to be trained in standard recording practices; these recordings are often low-quality and disjointed, and there is a risk of degradation of these almost obsolete audio carriers (Canazza et al., 2010: 977).

The study of effective methods to preserve musical archives began in the 20th century as the awareness of archival preservation gradually increased in Europe and the US.

Audio archives have been progressively promoted internationally since the world's leading music book and document collections gathered in Paris in 1951 to establish the IAML and discuss standards for the managing and preserving music documentation. The IASA, the FIAF, the AMIA, the SEAPAVAA, and the ICA are among the international audiovisual archival organizations that have emerged after World War Two (WWII). All papers in the IASA³ journal that are online accessible beginning in 2000 should be named among the numerous essential literature on sound archiving. Materials published on preservation strategies, small-scale archives, and community impact are extremely useful for research. Experiences gathered in Asia, particularly Southeast Asia, contribute to a developing understanding of the nature of sound archiving in difficult climatic zones. For example, IASA TC04, which proposes technical parameters for audio digitisation (sample rate ≥ 96 kHz/24 bit), emphasises the control of the physical medium environment (temperature 15°C, humidity 30%).

IASA TC-04 provides a foundational technical framework for digitising audio materials. Regarding Zhuang songs, IASA TC-04 does not address multilingual metadata requirements (e.g., annotation of lyrics in one of the Zhuang language dialects) and lacks guidance on handling ambience in field recordings. International standards are based on industrialisation needs and on Eurocentric approaches. They can only be felt as inadequately addressing China's ethnic linguistic diversity, ritual

³ IASA (International Association of Sound- and Audiovisual Archives, see list of abbreviations) is a professional association concerned with the care, access and long-term preservation of the world's sound and moving image heritage.

cultures, and technological disparities. Applicable to the physical preservation of Zhuang songs but requires adaptation to local dialects and cultural contexts.

2.2.2 The Current Status of Research on Audiovisual Archives in China

Currently, both information and artistic creation are primarily carried out digitally. The preservation of this content raises additional issues in terms of keeping it functional and available since storage technologies are replaced by new generations that are more powerful and frequently incompatible with their predecessors (Navarro, 2015). For several years, talks about advancements in preserving digital heritage have occurred in certain parts of the world, particularly in English-speaking areas. In contrast, developments in Guangxi, China, have been seen as less urgent.

The first organized, planned and guided large-scale social science comprehensive fieldwork based on that advanced recording technology in Chinese history can be traced back to the 1950s, which lasted for more than ten years and obtained much first-hand information about Chinese folk music (Wu, 1991). Some audio recordings collected during this time were included in UNESCO's "Memory of the World" Programme in 1992, and the "Chinese Traditional Music Sound Archives" built on this basis has been officially released to the public through a digital platform in 2022 (Shao, 2022). It was not until the 1990s that music anthropology researchers began to pay attention to research on sound archives. Chinese scholars began their study of audiovisual archives rather late. Xiao Mei (2010) has written articles on the study of historical images and sound recordings. Throughout the past twenty years, the following studies on audiovisual archives have been carried out:

Wang Jue (2007) analyses the sound archives in the China Academy of Art collection, examining the transformation of recording techniques and discussing core issues in ethnomusicology fieldwork recordings and sound archives. Zhang Yanqun (2007) investigates the history and current state of ethnomusicological sound archives in China from a comparative perspective. Wei Xiaoshi, living in the anglophone world, (2017) explores the process of gathering, collecting, and linguistically summarizing folk music material from unauthorized, non-institutionalized folk archives in the Uyghur and Uzbek communities in Xinjiang. He analyzes the Tashi Music & Archive as a public folklore initiative that considers the diversity of regional notions of folklorism (Šmidchens, 1999) and complements similar public folklore practices worldwide.

However, the community has yet to be more involved in China's current exchange of archival information. Archives, research institutions, and academics are highly motivated to participate in the development of "databases" and the "digitization of archives." Still, there are serious concerns regarding sharing resources and data protection, such as the possibility of leaked or replicated materials. For instance, the Jiangxi Intangible Cultural Heritage Resource Library: Throughout its operation, it has not received many visits, and it has not gained prompt and effective feedback from users (Wang, Qin & Lu, 2018). The establishment of databases in various archives management departments generally lacks clarity regarding the limits of confidentiality and accessibility, which has a detrimental effect on the sharing and use of archives (Cai, 2014: 31).

The main reasons for these barriers are the dispersion of resources and the absence of unified metadata standards among institutions. Various systems, including libraries, archives, universities, and cultural centres, disperse audiovisual archives without a unified sharing mechanism. For example, archives of Zhuang songs in the border areas of Guangxi are stored at both local cultural centers and university research institutes; cross-institutional recall is difficult. In addition, the lack of technical capacity at the grassroots level is also an important factor. The lack of professional digitisation equipment and talent at various archival institutions has resulted in a large number of analogue media archives (such as old videotapes) that cannot be digitally shared.

2.2.3 Metadata and Semantic Management

The term “preservation” is often misused, with some using it as a synonym for “copying” or “proper storage.” However, the concept of preservation encompasses more than that. UNESCO defines preservation as the totality of actions taken to maintain a document's optimal condition while keeping it accessible indefinitely. Depending on the nature of the material involved, such activities may include conservation, restoration, copying, proper storage, and ongoing maintenance. With digital records, active preservation is crucial as passive preservation is not an option, and data needs regular updates and maintenance to prevent loss. Preservation is a never-ending task. Nothing has ever been preserved - it is only being preserved (Edmondson, 2013: 1). Metadata is an important part of preservation.

Caplan (2008) develops a PREMIS-based metadata model covering technical, rights, and provenance information. While effective for standardised management, the model neglects ethnomusicological specificities (e.g., ritual functions and dialectal variations

of folk songs). Therefore, this study needs to pay attention to the addition of ‘cultural function’ metadata fields, such as the type of Zhuang songs attributed, when creating the data sheet.

2.3 Studies on Zhuang Songs

Zhuang songs, which carry the humanistic practices of the Zhuang people, have been used to transmit the rituals, beliefs, and emotional ambitions of the Zhuang people from generation to generation. Academics currently concentrate their study of Zhuang songs on interpreting the language or lyrics, melodic analysis, cultural and historical context, and performance forms and functions.

2.3.1 The Study of the Cultural History of the Zhuang People

The Zhuang region has been studied in terms of its history or culture. The majority of research literature of this kind comprises historical records from the various Zhuang areas, with historiography as the primary research method and Napo County as the primary research object. The historical origins, traits, and humanistic context of Zhuang mountain songs are examined and justified by Xu Hanmei (2010) in terms of their natural setting, humanistic context, and ways of interpretation.

In the study of the Zhuang region’s traditions, the study explains and analyses the culture of the Zhuang based on local historical materials and analyses the preservation and modifications of the significant cultural aspects of the Zhuang, such as language, marriage and funeral customs, homes, and costumes, as well as the ecological culture of the union of heaven and man, the food culture and the costume culture (Dai & He, 2005). Chen Liqin (2011) analyses the connections between Zhuang song culture and

Zhuang identity, as well as the relationships between traditional Zhuang festivals and songs, such as life ceremonies, marriages, and funerals. The origins, traditions, activities, and procedures of the Zhuang festival “Nanhai” in Napo County are explained in depth by Xu Hongbo (2009). In-depth analyses of the musical traits of three “Guonanhai” festival tunes are also included in the essay.

2.3.2 The Study of Zhuang Language or Lyric Books

Zhuang songs are studied from the perspective of lyrics. Zhuang songs have literary and musical characteristics, making them both a cognitive function of transmitting ideas through linguistic symbols and expressing people's emotions. Wu Dequn (2012: 17) sees Zhuang songs and human socialization as interacting with each other. By influencing the emotions and cognition of individuals, the songs shape their socialization process. The information in the songs is processed into individual knowledge through people's cognitive and emotional processes, which motivates behavior.

While music does not have organizational or meaningful equivalents to verbs, nouns, and adjectives, recent cognitive studies demonstrate that the same areas of the brain processing syntax and semantics are employed for both music and language (Patel 2003: 677). This study focuses on the lyrics of Zhuang songs from a literary point of view, analysing them in terms of their variety, subject matter, rhythm, context, and ideology. Linguists have studied both how to translate Zhuang into Chinese and English so that more people can understand the Zhuang people's beliefs and customs. Zhou Yanxian (2016) has published a series of research articles on the translation of the lyrics of Zhuang songs, analyzing in detail how to translate Zhuang into English

and effectively reflect the original literary context. This can help preserve, promote, and spread Zhuang songs and the Zhuang culture and language they are based on so that the Zhuang language and culture can effectively.

Guided by the theory of translation adaptation, translators can effectively deal with the linguistic, rhythmic and cultural similarities and differences between the original language and the target language to achieve the communicative purpose of exchanging information, facilitate the preservation of Zhuang songs and their dissemination to the outside world, and promote the diversified development of world language and culture (Su & Huang, 2017). Translators who come into direct contact with and process song texts in the process of promoting Zhuang culture should clarify the original types and functions of Zhuang lyrics to translate them more accurately. In the translation process, to ensure readers' accurate understanding of Zhuang culture, translators should also add appropriate paraphrases and add cross-referenced texts and annotations (Feng, 2018).

Zhuang language belongs to the Sino-Tibetan language family, and its linguistic works also have the phenomenon of rhyming. In terms of rhyme, the lyrics of Zhuang songs have five-word, seven-word, and eleven-word stanzas in each line. Early linguists used the metaphor of head, waist, and foot body parts as different positions in a sentence in order to study the rhyme scheme in the lyrics. The first word at the beginning of each line is called 'head', the last word is called "foot" or "tail," and the rest of the words in the middle are called "waist." There are three main types of rhyme: waist and foot rhyme (脚腰韵), foot-head rhyme (脚头韵), and foot rhyme (脚韵) (Pan & Qin, 1993: 457). The four rhetorical techniques commonly used in Zhuang

songs are rhyming, flat and oblique, superimposed tones, and lining words, to express the harmony of sound and rhythm and to express rich thoughts and feelings and rich rhythmic melodies in order to achieve a rhetorical effect that is easy to sing (Liu & Lu, 2017).

The primary way Zhuang evaluate *fien* (吩) is through the quality of the lyrics. A good song is one that has witty lyrics, or words that reference critical parts of Zhuang culture. These words are often extemporized and must fit a specific rhyme scheme and phrase structure that correspond with major sections of the tune used to *gueg fien*. And the author hypothesize that sections of melody and complete clauses of lyrics meet at consistent points in their respective structures, creating the possibility for a joint syntactic analysis of melody and lyrics. Widman (2019: 5) further posit that Zhuang melody in this context has demonstrable semantic significance as an overt marker of a possible Zhuang literary world.

2.3.3 The Study of the Melodic Analyses, Performance, and Functions of Zhuang Songs

The research on Zhuang songs by Chinese music majors has mainly focused on the analyzing the melodies of Zhuang songs, involving the study of the musical characteristics of Zhuang songs as a whole or the characteristic ornamental sounds of Zhuang songs in different regions. In Zhuang songs from different regions and branches, the liner notes, the laconic forms, as well as the rules for their use show a diversity of features. Zhou Guowen's study focuses on the melodies of six different Zhuang songs from the region surrounding Napo County. He offers a thorough analysis and examination of their cultural connotations and development history from

five perspectives: human geography, a song's overview, an analysis of musical forms, cultural meanings, and historical origins (Zhou, 2005).

Zhu Tengjiao (2020) argues that the vocables and singing tunes in Zhuang songs can only reveal their significance in duet singing. Singers must master the local cultural rules for using liner notes and cadences to accurately understand the meaning of the sung words in the process of duet singing. In the case of Zhuang songs, the so-called "tonal embellishment" is a process whereby the singer alternates between objective and falsetto voices to create a contrast between the real and imaginary and between the intensity and shade of the voice in order to obtain a change in the colour of the singing voice. Some Zhuang singers prefer falsetto in the soprano range and authentic voice in the lower and middle ranges. However, switching between absolute and falsetto vocal sounds varies from region to region, thus showing different "personalities" and "rhythms." If one subdivides the "timbre type embellishments," they can be divided into "natural voice fading into falsetto," "natural voice and falsetto steeply shifting" and "full falsetto." These three categories are mainly found in the Zhuang region around the Tuo Niang River (驮娘江), You River (右江) and Yong River (邕江), which is within the southern Zhuang dialect area and part of the northern dialect area (Wen, 2018). The musical structure technique of Zhuang songs is generally based on the use of the structural principles of rising, bearing, turning and combining in the lyrical content to form a four-phrase section, with liner notes added at the end of each section to expand the song structure of the section (Wei, 2016).

Adding oral history materials about Zhuang songs could solve some of the problems with traditional documentary history materials. This would allow us to learn more

about the Zhuang family, clan, marriage, the economy, and other social relationships, says Dang Yuna, who supports using oral history research methods to study Zhuang songs (Dang, 2019). The population of Zhuang songs is aging, and if the younger generation isn't included in Zhuang songs at the right time, both its transmission and preservation would decline. Ge Xu (歌圩) is an essential occasion for duet singing, and choosing a partner during duet singing is a meaningful way for young Zhuang men and women to get married. This practical function has kept Zhuang songs essential among the Zhuang people. However, with the advent of the multimedia era, changing attitudes towards love, and increased opportunities for social interaction, this practical function of Zhuang songs has been diminished and has indirectly diminished the audience for Zhuang songs (Liu & Xie, 2018). The lyrics of the two Zhuang liao songs, Da Lu (大路歌) and Xian (献歌), both talk about the important marriage system in that time and the unique Zhuang custom of “choosing a spouse by singing a song,” which comes from the primitive society. It seems that some of the things that are said in the clarion song are passed down from the primitive society and are still practiced today. We can infer that some of the songs' content reflects the legacy of primitive society and is a product of culture. The cultural effects of the “choosing a spouse by singing a song” activity have profoundly impacted the heritage of the song (Jin, 2018: 36).

2.4 Audiovisual Preservation of Zhuang Songs

Audiovisual preservation of Zhuang songs has been carried out in the areas studied, through official and folkloric means. The following are the primary ways in which this has been achieved:

Zhuang songs are recorded with the support of official cultural departments⁴, which fund professional music recording teams to travel throughout Guangxi and record various Zhuang songs. These audio and video materials are then disseminated through various channels, including the “Hearing Guangxi - A Collection of Zhuang Songs⁵” project, supported by the China National Arts Foundation⁶ and publicly uploaded online. Folk recordings are made by individuals working in the audiovisual industry who record singers at wedding ceremonies, and produce CDs or MP3 files for sale to meet the entertainment needs.

The survival of their intangible cultural heritage has come to depend on the government commitment and guidance (Stanford & Pan, 2013). Zhuang song competitions and exhibitions are organized, particularly during the Zhuang people's solemn festival, which takes place every year on the lunar March 3rd⁷ (Figure 2.2). These events are organised by the government's cultural department or as spontaneous gatherings of residents. These events include Zhuang song competitions, costume exhibitions, and folklore experiences. The television stations record the events, and local residents' advent of live shows and recording has also become an effective means of audiovisual preservation in modern times.

⁴ The Ministry of Culture and Tourism of the People's Republic of China.

⁵ It was released by Rhymoi Music on August 11, 2021.

⁶ The China National Arts Foundation was established in December 2013 with the approval of the State Council of the People's Republic of China. The address is in No. 9 Jiannei Avenue, Jianguomen, Dongcheng District, Beijing.

⁷ It is usually organized by local cultural and tourism regulatory authorities.



Figure 2.1 : Singers singing at the Sanyuesan Festival in Longlin Various Nationalities Autonomous County, Baise City. 22 April 2023



Figure 2.2 : Poster of the Zhuang Song Competition organized by the Government of Matou Town, Pingguo County
(Photo by Lin Zhi, 9 September 2023.)

About the documentaries on Zhuang songs. Cultural departments in various regions of Guangxi, television stations or self-publishing organizations have produced documentaries on Zhuang songs, such as the Zhuang micro-documentary “Ding Ding

(鼎叮)⁸” and the Guangxi music documentary “Shange Haobi Chunjiang Shui (山歌好比春江水)⁹.”

In the 1960s, the government organized professional music scholars to set up expedition teams to conduct field surveys in various minority areas¹⁰ (Yue & Wu, 2021). Although the process was highly subjective and purposeful, this series of organized and planned field surveys accumulated a large amount of data that marked the time for the study of Zhuang music in Guangxi at a time when resources were relatively scarce.

Related collections of Zhuang songs, such as songbooks, costumes, and hand-painted manuscripts in the Guangxi Museum of Ethnic Music of the Guangxi Arts University can also be traced back to that period at the earliest. According to Chu Zhuo, director of the Guangxi Museum of Ethnic Music, since its opening in 2018, the museum has been cooperating with the surrounding primary and secondary schools one after another to carry out special displays related to Zhuang songs in Guangxi, introducing the origin, development, characteristics and artistic value of Zhuang songs to the audience through the display of Zhuang instruments, photos, and videos of Zhuang singers and Zhuang costumes (Figure 2.4). Since 2020, it has been cooperating with

⁸ The documentary shows the Zhuang people in Guangxi speaking about their reverence for nature and life with Tianqin, the musical instrument. It is produced by the School of Literature, Journalism & Communication in South-Central Minzu University in November 2019, with Gan Shiyue as the chief director.

⁹ The documentary shows the customs, cultural environment and frontier characteristics of Guangxi. It is produced by the Radio and Television Bureau of Guangxi Zhuang Autonomous Region and Guangxi Radio and Television Station, with Lan Yunjian as the chief director. The documentary premiered on Guangxi TV on October 11, 2021.

¹⁰ The fieldwork took place between 1960 and 1967. Organized by the Ministry of Culture and Tourism of the People's Republic of China, the Department of Culture and the Federation of Literary and Art Circles in China's 30 provincial-level administrative regions are jointly responsible, and the members of the field investigation teams are composed of staff from universities and research institutions.

other professional institutions and organizations one after another to actively promote the construction and management of the Guangxi Zhuang song database. However, a database open to the public has not yet been completed (Figure 2.5).



Figure 2.3 : From 2018 to 2020, Lin Zhi guided primary school students to visit the Guangxi Museum of Ethnic Music



Figure 2.4 : The multimedia playback and audio restoration of the 78rpm systems of the Guangxi Museum of Ethnic Music, 15 September 2023

Contemporary music is also a continuation of traditional music. Zhuang singers combine elements of Zhuang songs with popular music, covering them by changing the rhythm, tempo, vocalization, and spelling of traditional songs, or selecting elements from Zhuang songs to create popular songs. Representative figures include Wei Dehua, Liao Hanbo, Lu Jianping, and Mo Yance. Mo Yance is from Debao County, Baise City, he uses the musical elements of Debao's Zhuang song Liao in his compositions, such as the intro of "Shan Zhong Hua Mei". Another is "Le Xiao Yao

(乐逍遥),” which uses elements of “Molun (末伦)” and is sung in the native Zhuang language of Dejing.



CHAPTER 3

MATERIALS AND METHODS

This study examines the diverse singing traditions among the Zhuang groups using an interdisciplinary approach that incorporates ethnomusicology and focuses on contextual factors and sound engineering techniques utilized in the recording field. Baise, Chongzuo, and Fangchenggang are situated in Baise County, Guangxi Borders, and it employs qualitative research methods. The validity and importance of this study are established by domain analysis in the specific region and time period. People performing Zhuang songs in Guangxi's three border cities are the main focus of the study. The ideas and feelings of these people are highly valued in the study since it believes that they are essential to comprehending the point of view of the investigation. Additionally, it uses every stage of these individuals' life cycles as a crucial place to start in order to comprehend and acquire new insights.

The research methods entail collecting data in a variety of ways. Audio recordings of Zhuang singers are part of the sound data collection from various locations. These are supplemented with cultural observations, conversations with Zhuang communities, and interviews with people who offer their takes on sound preservation. To completely understand how Zhuang music and people interact, a variety of methods are used in the data gathering process, such as semi-structured interviews and both participatory and non-participatory observations. Understanding Zhuang singers along the Guangxi border is easier with the use of this basic facts. It explores a number of topics, including the region's dialectal phonetics, song melodies, and the important cultural

occasions—such as festivals, ceremonies, family get-togethers, and recreational pursuits—at which these songs are played.

3.1 Sound Collections and Acoustic Ecology in Zhuang Music

Using multiple sound collections through audio recordings, which defines the technique in the development of sound-banks, the study promotes a more thorough comprehension that considers a variety of viewpoints. The approach also aligns with Schafer's revolutionary "soundscape" concept and the area of acoustic ecology. This synergy improves the analysis of Zhuang music and its auditory context. Combining these philosophical ideas with ecological perspectives makes the study of Zhuang songs more intricate and multidimensional, breaking the constraints of conventional audio field recording.

The first step in this study is the examination of a variety of audio sources, such as sound recordings from websites, published works, audio and audiovisual recordings from cultural centres, amateur field recordings, and audio resources from the named Guangxi museum. Moreover, ARCPA archival documents from Universiti Putra Malaysia were analyzed. The audio recording qualities found in these recordings were then critically evaluated. Sound production necessitates typology, especially of sound structures, and frequent comparison of the generated data. This combination of methods makes it easier to see how the sound in Zhuang songs developed and changed over the past decade, how sound producers have responded to these changes, and how these changes have been interpreted in a wider context.

3.1.1 Sound Recording Review of Zhuang Songs

Hearing is an essential part of the human sensory system. Compared with the visual art of intuitive rationality, hearing is more imaginary and emotional; the listener can only imagine the scene when the sound comes into their ears. From the beginning of audio recordings, people carrying recording equipment with different functions into the field area faced various possibilities. Schafer (1993) states that the world soundscape is changing dramatically, indicating a change in the auditory environment that people present times are exposed to. According to him, a soundscape is an all-encompassing, ambient idea that emphasizes the interactions and affects different sounds in the surrounding sound environment. People live in an increasingly complex and difficult aural environment as urbanization and industrialization grow. The way Zhuang songs are sung has also changed as a result of this environmental change.

During the past time, Zhuang singers had to invite other singers before they sang. This type of invitation is very different from today's habits of inviting, when people rely on electronic communication devices. According to Huang Guoguan "There used to be no such environment and electronic devices, we now usually make a call or send a message via WeChat to our friends to set up a time and place to sing (Huang & Lin, 2023)." In the past, the Zhuang people of that era worked in open fields and highlands, mostly in agriculture and forestry. The singers were dispersed and did not know whether any of the other singers were nearby. Thus, the singers would exclaim "yay" or "yo." A singer who was possibly across the field heard this and reacted by yelling "yo." indicating to be unsure or a "no"-response, and "yay" showed a yes-response. For these spontaneous singing invitations, different Zhuang regions had various regulations. Zhu Tengjiao (2021) narrates how he and a Zhuang singer Lu Weibao

attended a celebration of 70th birthdays in Funing County, Yunnan Province. Lu Weibao replied that “singing invitations” were customary in his hometown, where the guest could only respond with a song after the host had finished singing. Lu gave his justification in response to refuse the guests’ insistence that he may sing. It would be regarded as impolite by the Zhuang people’s elders if the guest began singing first.

The research assessed all of the audio and video recordings that were gathered during field research and acquired through various channels in an effort to create sound-banks that would be appropriate for preservation for future generations. These channels comprised recordings from live performances, online recordings, commercial recordings, and private collections. The study sought to understand how Zhuang song singing is responding to cultural and historical contexts, taking into account important contextual factors such celebratory occasions like wedding banquets. It also aimed at pinpointing the fundamental sound elements that elevate the overall musical experience while considering sound ecological viewpoints like cultural sustainability and the environment. Through the evaluations of collected audio recordings, the study also looked at the function singing plays in social relationships and how singing is ingrained in Zhuang culture.

3.1.2 Commercial Recordings

The author obtained a large number of video compact discs (Video CDs) supplied by the singers during the fieldwork, most of which were commercial recordings, which were mostly recorded by the singers at the expense of a media studio, and sold in the town fairs.

According to Luo Jingchao, he began recording local Zhuang songs in 2000 and later he sold these audio recordings. At that time, a compact disc of Zhuang songs was produced and sent to the market, the price reached 30-40 RMB per disc, which local Zhuang singers and residents deeply loved. Nowadays, a few discs are still on sale, but each disc costs a maximum of 5 RMB. The recorded content mainly features moving images from wedding banquets, move into a new house, and other parties hosted by residents of Napo County. Singers usually sing during the meal (Figure 3.1). The specifications of the banquet are recorded in the annals of Napo County (2002: 108):

“Men and women were seated separately, and the host prepared different food for female and male guests. In order to avoid waste, guests can pack leftover food after the meal, and women are responsible for packing. The table for female guests has ten dishes and two soups. The host also prepare leaves, such as lotus, banana leaves for packing, and now use plastic bag. There are 13 to 16 menus for the male guests, which are prepared in different ways, such as stir-frying, frying, steaming, and stewing.”

This CD shows men and women sitting at the same table, reflecting how customs have changed to some extent.



Figure 3.1 : Screenshot from CD Sample 1 “*Bainian Ge*”

It was disclosed in the interview that the film was shot in a Napo County commercial studio and afterward assembled onto a Video CD. The vocalist was asked to prerecord the vocals in the studio, and overdubbing techniques were used to play the audio alongside the footage of the singer’s performance at the wedding dinner. This suggests that the voice on the Video CD was edited by a technique called overdubbing, which involves adding recorded vocals to an already-existing visual content. Luo clarified that this was done to make sure the singing was clear and to avoid any background noise interfering with it. When it comes to studio recording procedures, the “gating technique” is frequently utilized in the construction of a cleanup signal. The main objective of this technique is to silence audio when unwanted signals are present in the surrounding environment. A gate device sets a threshold above the level of undesired sound. An important finding in favour of this procedure can be seen in the

Spectrogram (Figure 3.2). A flat line or area without waveforms inside the yellow box suggests that no sounds are occurring there that may cause amplitude fluctuations.

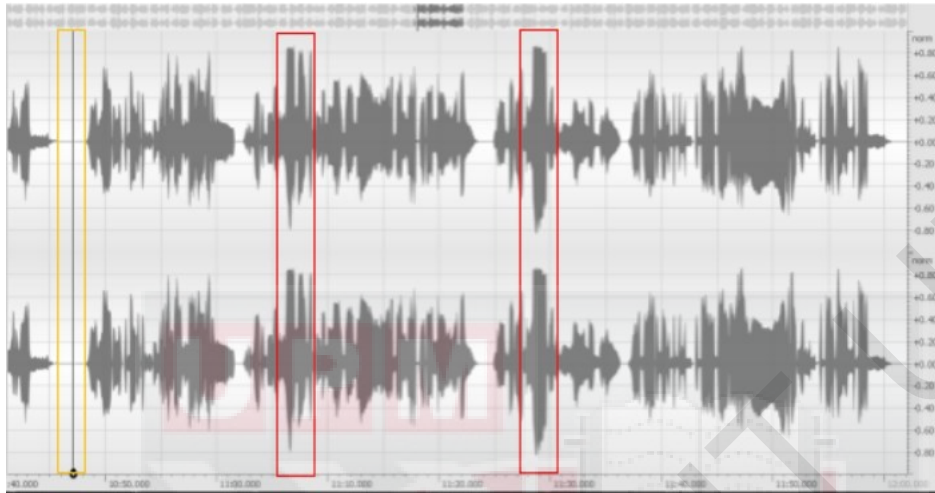


Figure 3.2 : Spectrogram visualization depicts a distorted audio signal waveforms, affected by a gate device control, hence showing straight line (silence- shown in yellow box). Signal sample taken from “Bainian Ge.”

The spectrum shows that this is a mono recording as so many commercial recordings before and later, that were merely pressed on a CD but were extracted from VHS or magnetic tapes. It is important to remember that contextual sounds like discussions are common in a live recording, as at a dinner; a silent situation is impossible. Accordingly, the gating technique's application is customized to block off particular undesirable noises. The details of this procedure are displayed in the spectrogram, where the gating technique's efficacy is demonstrated by the yellow box's lack of waveform within the designated threshold.

The red box in the spectrogram indicates that distortion is not common. The “auto-level normalization” that occurs during unconventional domestic CD transfers is the source of these inherent distortions. The part highlights results from a lack of

knowledge about the operational protocols for preserving audiovisual resources as reference materials in actual sound preservation. Better sound preservation techniques aim to create the best sound quality possible, which is beneficial for academic reference or for individuals trying to understand texts in music from minority cultures. This distortion, sometimes known as inconsistencies in sound recordings, can lead to incorrect interpretations of audio content recorded as data.

Another illustration can be found in CD-R sample 2. The Pingguo County Tax Bureau Agencies produced this CD-R. The intention is to use Liao songs to educate the community about tax rules and regulations. The songs are sung in Zhuang and Chinese with subtitles in Zhuang language. The vocalists were two men and two women. Ten distinct Liao tones are used to sing the entire song. The singers are heard singing in a studio, but from 00:31 to 00:40, artificial background noise - bird chirping (Figure 3.3) - has been created and layered over the vocal performance, hence the material is not suitable for environmental sound preservation.

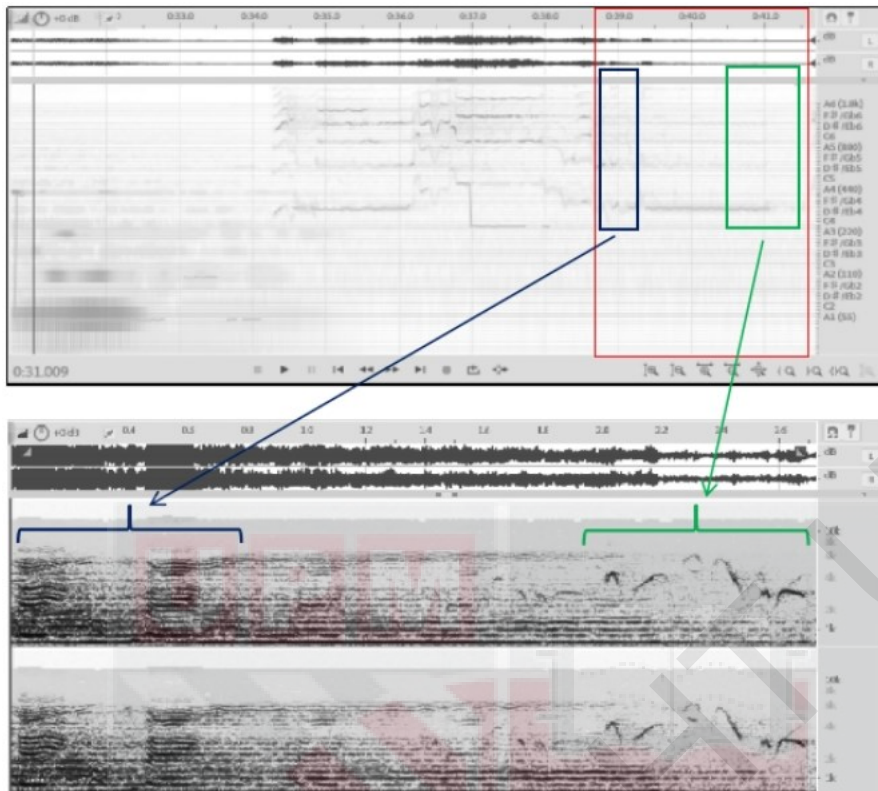


Figure 3.3 : Spectrogram of fake bird chirping

Recreates a new file with the selected piece of audio and boosts the 12dB effect. The boosting of 12dB is used to visualize the sound event, which has a reverb effect. Hence, it creates a spatial or depth to the overall audio spectrum.

3.1.3 Personal Collections

Some singers who are good at writing lyrics record their text collections as a hobby. They only give these recordings as gifts to friends, not for sale. These recordings are of relatively low quality because of their one-dimensional fixation on text exchanges

The CD-R sample 11(3) is “Love Songs of Longse”. The CD was recorded on February 4, 2014, and its creator is Ruan Guotang, a Zhuang folk poetry lover from Longse Village, Guohua Town, Pingguo County.

According to the subtitles, the Zhuang songbook “Longse Shengsi Lian” was written by Ruan Guotang in 2006. He transcribed it into Chinese characters and performed it again a few years later. It has been a year since the start of this recording effort, which was the 2013 Spring Festival. There are 222 Mandarin tracks on the CD, along with Chinese character subtitles. Friends from different Longse settlements paid the bills for the recording.

The video was shot in real life, but the audio was recorded in the studio. The spectrogram shows that the right channel is a female singer (Figure 3.4), and the left is a male singer (Figure 3.5). The gain-knob is not opened. But the entrance is harmonized and justified to a maximum.

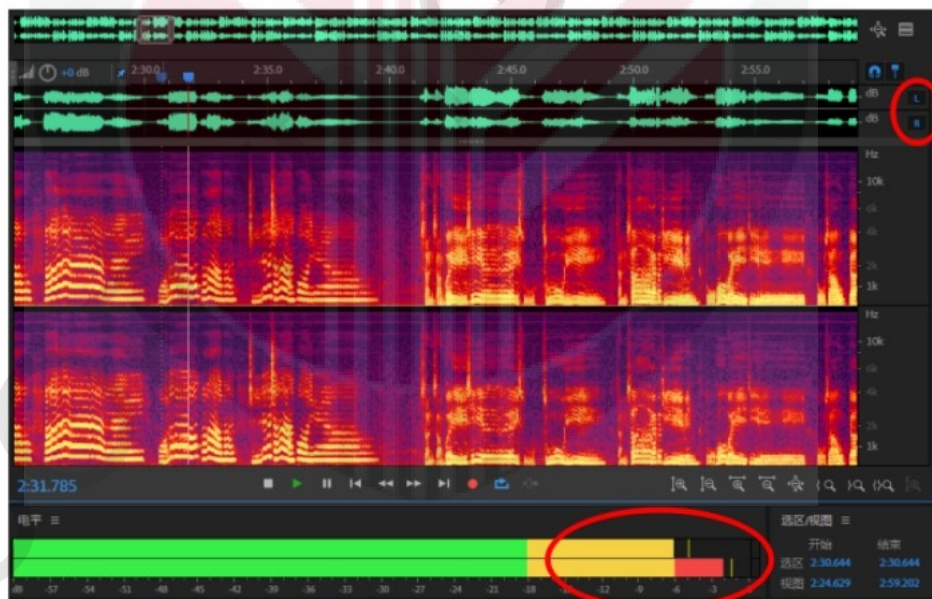


Figure 3.4 : Screenshot from CD Sample 1 “*Bainian Ge*,” female singer’s part. There is an over-signal on the one channel



Figure 3.5 : Screenshot from CD Sample 1 “*Bainian Ge*,” male singer’s part. There is an over-signal on the other channel

3.1.4 Live Performance Recordings

This part of the assessment is for the audio and video filmed at the gathering or the live competition of Zhuang songs, which are mostly organized by the local cultural department or the Zhuang song association and filmed and recorded by the photography-company hired by the organizers. Usually there is only one fixed camera position.

The selected sample is the CDR format VCD recorded on October 3, 2005, the 65th anniversary celebration of Pingguo Senior High School. The recording duration of the CD is 59 minutes and 35 seconds, from which a total of three audio files were extracted. There were three audiovisuals on this CD-ROM, with file names AVSEQ01, AVSEQ02, and AVSEQ03. These audiovisuals were in the DAT¹¹ format, which

¹¹ This is a video-CD format, in the past (before 2015) created by NERO and similar programs. It behaves like a MPEG-file in the first generation and needs now to be converted.

stores video and audio data compressed with MPEG-1 compression. DAT is the video format commonly used for VCD discs. VCD DAT files were popular in the 1990s, but these files were also quickly replaced by the DVD format. The AVSEQ01 and AVSEQ03 video files are both short commercial videos of the studio where the video was shot and produced, with durations of 00:18 and 01:04 respectively. The AVSEQ02 video is 01:00:17 in length, and is a recording of the gala, with a total of eight performances, including speeches by the leaders, a series of hosts, singing, and dancing. There are no subtitles for the programs in the video, and the names of the programs and individual performers can only be heard vaguely in the host's introduction. The performers were all dressed in ethnic costumes. The video is a live recording, but the camera is not steady and rather shaky, the video recording sound is partially cut off and muffled, and there are obvious traces of editing, resulting in poor articulation or incomplete video recording (Figure 3.6, Figure 3.7).

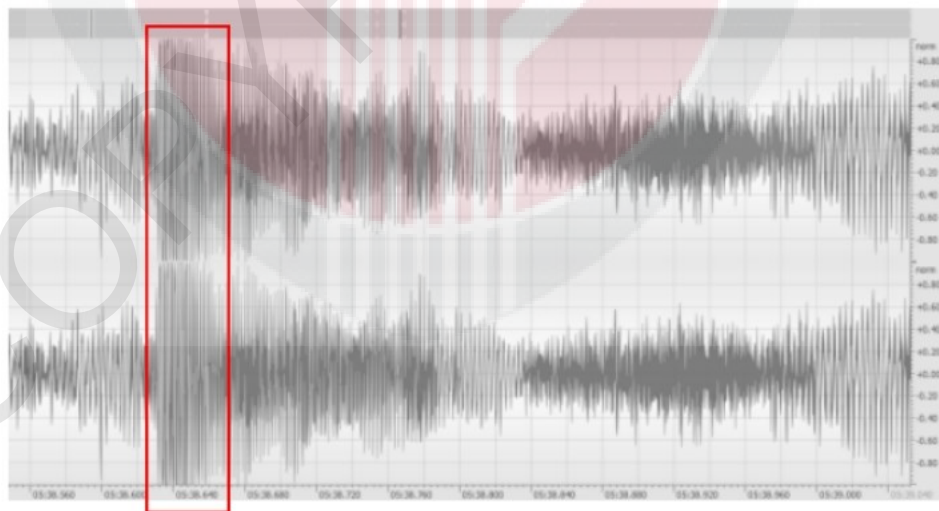


Figure 3.6 : Distorted signal sample taken from “the 65th anniversary celebration of Pingguo Senior High School”



Figure 3.7 : Edited signal sample taken from “the 65th anniversary celebration of Pingguo Senior High School”

3.1.5 Online Recordings

The selected sample is from the Dragon Boat Festival, a particular commercial program produced by the China Media Group. This is an adaptation of “Moonlight Love” performed by the Tianqin group of Guangxi Arts University. The ‘musicians’ as the actors for the music video, play the Zhuang musical instrument called “Dingding.” The tune’s name is “Jiti,”. It is often played in the Chongzuo Zhuang region of Guangxi. “Jiti” means rooster crowing, the Jiangzhou dialect accent is *gaeq kaen*, and the standard Zhuang accent is *gaeq haen*. However, Zhuang people will not play when singing “Jiti” in real life because they sing in the process of their work and are not accompanied by musical instruments. The audio recording that accompanies the music video production cannot clearly show the sound of running water, cicadas, and birds to form a context of that and is lacking connections to the visual of a river, the mountains and the forest.

In the majority of ethnographic sound recordings of Zhuang songs, researchers give special attention to the singer's voice by having them perform in a controlled setting or recording studio. Every recording studio has a live room or performance space that is configured to give the necessary acoustics for the venue. "The live room is often equipped with an isolation booth, soundproofing to diffuse low-frequency rumble, acoustic paneling to absorb any potential presence of 'standing waves' (Musib, 2019: 93)." The conventional studio recording practices involve isolating the singer's voice and creating individualized tracks within a multitrack recording. This practice, known as studio recording techniques, involves isolating any unwanted sounds for various purposes such as equalizations, controlling dynamic range with the aid of a dynamic signal processor, or perhaps adding a hall effect to the signal.

Judging from the music video of the Tianqin group of Guangxi Arts University performing "Moonlight Love," which was just highlighted, this production style is inaccurate and unsuitable for preserving the sound of Zhuang songs. Sound effects and context were added to complement the visual through an audio-visual synchronized manner. The sound of water splashing in the video and the plucking of the Dinding, for example, clearly indicates this.

Based on the results of the sample, audio from the music video was gathered, extracted, and separated from the visual content. The author conducted spectrogram analysis using Adobe Audition Software to confirm the evidence. The audio samples were extracted from the music video at the beginning of the first two seconds. Figure 2.13 depicts a Dinding player continually playing the single pitches of "Moonlight Love."

The audio signal collected from the music video was compared to an actual live recording of a Dinding (Figure 3.8).

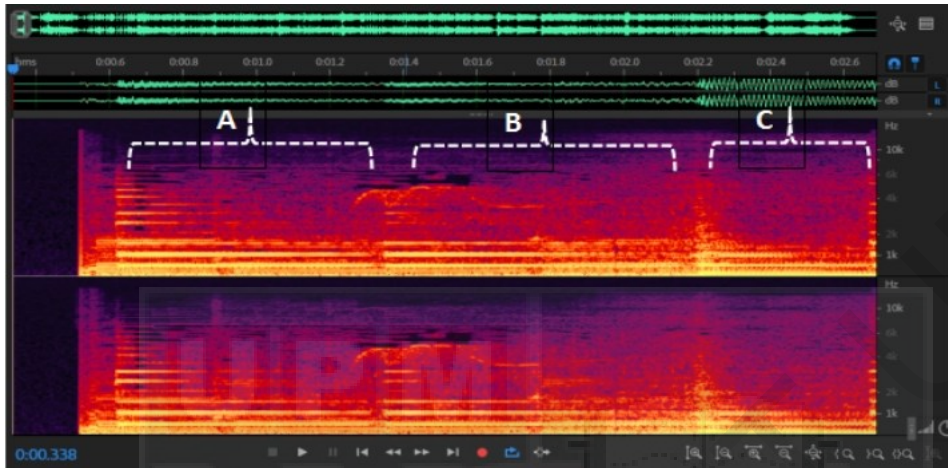


Figure 3.8 : Spectrogram analysis of the single-pitch playing repeatedly in the “Moonlight Love.”

Dinding sound was extracted from the music video within the first two seconds. The “haze-like image” in columns A, B, and C was affected by “reverb,” thereby imparting a spatial depth to the Dinding sound with a long decay signal, creating the impression of the music being played and echoing from the mountains.



Figure 3.9 : Dinding analysis of the single-pitch playing repeatedly. 22 January 24. ARCPA No 3094

The reenactment of Dinding playing in the same or similar pitches was recorded in a live environment. No “haze-like image” is observed in columns A, B, and C, as these were recorded in a soundproof room. The multiple horizontal lines were the harmonics of each tone played. Therefore, the signal disperses quickly with a short decay amplitude. Ergo, no effects were applied in this recording.

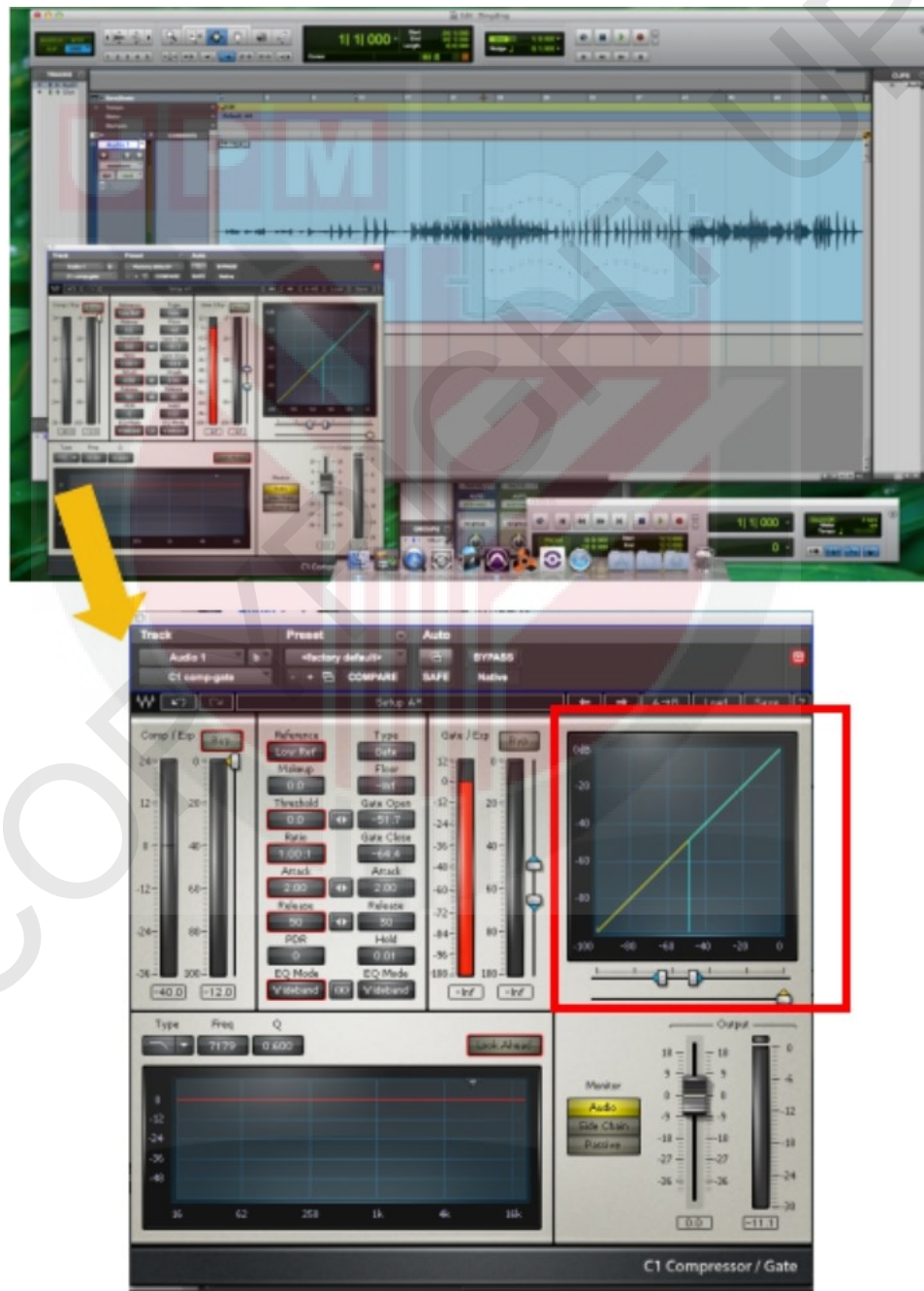


Figure 3.10 : Overall Project desk and Audio Compressor

“In contrast to many synthesized sounds, real sounds tend to vary over time (Davies, 2010: 382).” Below is another experiment as an A, B comparison (Figure 3.11). Here is a waveform of a single-pitch pluck on an acoustic guitar. The waveform of the recorded acoustic guitar sound of a single tone shown is to demonstrate how a process signal looks. Column A indicates the signal of an acoustic guitar playing a single note through a reverb and audio dynamic processor unit. Column A also depicts that the process signal amplitude is smaller due to the effect of dynamic signal processing known as audio compressor. The purpose of an audio compressor is to control the dynamic range of the overall amplitude. The long decay of Column A signal portrays the sense on spatiality and depth. This is due to the effect of reverb applied to the signal. In comparison to Column B, none of the evidences are spotted. Namely the evidence of dynamic range as well as reverb application. Column B has no processed signal.



Figure 3.11 : Column A and Column B differs in its amplitude and decay length

This experiment underscores the importance of ethnographic recording as the optimal approach for sound preservation. The detailed analysis of the processed signal in Column A, caused by an audio compressor and reverb application, illuminates how these effects shape the amplitude, dynamic range, and spatial qualities of recorded acoustic guitar sounds (Figure 3.12).



Figure 3.12 : (a) left: mixer with compressor/gate and reverb insert to the desired audio track and (b) right: Reverb plugins

Ethnographic recording, which captures the genuine context of a performance, is crucial for preserving sound. In contrast, Column B displays the unprocessed signal, displaying the true sound dynamics within its real context. Column B exemplifies the ethnographic recording approach, emphasizing the importance of capturing genuine sound characteristics in their original setting.

3.2 Sound Archival Sciences and Spatial Analysis in Ethnomusicological Field Recordings

The application of Sound Archival Sciences, as outlined in the IASA-TC 04 Guidelines on the Production and Preservation of Digital Audio Objects¹², provides a structured approach to preserving ethnomusicological field recordings. A key aspect of this process is transforming “the sound generation site” into “carrier storage,” where recordings serve as a vital link between different research fields and archival institutions. The significance of “recording” as a central theme in both technological and human history has been widely acknowledged (Wang, 2007). To ensure high-quality documentation, electrical equipment must meet technical standards, capturing essential metadata such as the number of pixels, bit depths, sampling rates, and used microphone techniques when collecting and recording music for any field study.

In addition to archival methods, this study employs spatial analysis techniques, including contextual examination and environmental determinism, to explore the distribution of Zhuang individuals in the border regions of Guangxi. Sound mapping, particularly through cartographic documentation, plays a crucial role in this process. By utilizing GPS-based site location maps, researchers systematically collect and organize geographic data linked to specific settings. This method not only records spatial audio but also identifies sound features and boundaries of Zhuang song performances.

¹² <https://www.iasa-web.org/tc04/audio-preservation>

Furthermore, sound mapping facilitates an in-depth spatial analysis by examining patterns, relationships, and trends in the geographic phenomena surrounding Zhuang musical traditions. Beyond its analytical function, it serves as an essential tool for cultural preservation, aiding in the documentation of heritage sites, traditional territories, and historical landmarks. Integrating archival sciences with spatial methodologies enhances both the accuracy and cultural significance of ethnomusicological field recordings.

3.2.1 Archival Preservation of Zhuang Songs

The thesis materials compiled or preserved by the organizations and individuals involved in the study of Zhuang songs mainly consist of general knowledge books and songbooks, including old songbooks left over from history and collections of lyrics compiled and published recently (Figure 3.13). A few academic institutions and museums preserve the collected songbooks in a scientific and rational way, such as dusting and sterilising them, changing the pH value of the paper and storing them in a constant temperature and humidity environment.



Figure 3.13 : Singer Yue Jianxiao shows the songbooks to the researcher. (Siyang Town, Shangshi County, Fangchenggang City)
(Photo by Lin Zhi, 20 September 2021)

Some artists, writers, and inheritors from the Zhuang region accumulate Zhuang songbooks and handwritten volumes containing traditional tales. Their purpose in preserving these songbooks is not for display; they collect and preserve old songbooks and compile new ones out of their love and responsibility for the culture of their community. There has been a steady shift in perception among individuals who have “collections” as a result of the rise in the number of visits by other experts. Collectors lack an appropriate collecting environment and archival management expertise, and some misperception encourages them to carefully keep these songbooks in a cardboard box or suitcase (Figure 3.14).



Figure 3.14 : Old songbooks stacked in cardboard boxes (Daxin Cultural Center, Daxin county, Chongzuo city, photo by Lin Zhi, 6 September 2021)

However, it is obvious that of these storage options is neither ideal or supported by science for archival maintenance. Oxidation caused the paper of the songbooks to gradually become brittle and even begin to flake off (Figure 3.15). When they saw the gradually eroding songbooks, despite their best efforts to protect the paper documents, their limited knowledge and experience in archival preservation left them with no choice but to express their regret.



Figure 3.15 : Songbooks from the collection of literary scholar Nong Ruiqun (Longzhou county, Chongzuo city Long Ruiqun's home)
(Photo by Lin Zhi, 8 September 2021)

Similar incidents happened within the three cities involved in this study, like Daxin County, Chongzuo City, where staff members showed two cartons full of papers they had gathered from singers while conducting research on intangible cultural treasures (Figure 3.16). Or, a retired teacher in Pingguo County, Baise City, began to learn to sing local Zhuang songs at 14 years old and then gradually began to collect and organize local Zhuang songbooks, which have lasted over thirty years (Figure 3.17). According to him, in the early days, people would give the songbooks to him for free, but when the government gradually promoted the idea of intangible cultural heritage protection, and local people realized that the songbooks could bring profit, and the market value of these old and worn-out songbooks increased year by year.

However, they had no idea how to arrange these records, thus for two years following their collection, they were merely kept in cardboard boxes.



Figure 3.16 : Songbooks and Zhuang opera scripts in the collection of the Cultural Center in Daxin County (Daxin county, Chongzuo city Daxin Cultural Center)
(Photo by Lin Zhi, 6 September 2021)



Figure 3.17 : Some of the songbooks collected by Huang Guoguan (Pingguo County, Baise City)
(Photo by Lin Zhi, 10 September 2023)

Due to managers' inexperience of archival preservation and utilisation, even the university's audio archives are stored in an unscientific environment, with audio materials being kept in cabinets by themselves. By the time the archivists uncover the audio recordings, a large portion of it has deteriorated to varying degrees (Figure 3.18).

The restoration of sound recordings, digital storage of cassettes and videotapes, network administration, cataloguing, and copyrighting of the collection of sound recordings created in 1982 began at the Guangxi Museum of Ethnic Music of Guangxi Arts University in 2019 (Chu, 2019).



Figure 3.18 : Audio magnetic tapes stored in a cabinet at Guangxi Arts University. Photo by Lin Zhi, 6 November 2018

In 2019 and 2023, the author participated in the second and third “Training Courses for Professionals in the Processing and Preservation of Precious Historical Audio Archives” organized by Shanghai Conservatory of Music (Figure 3.19, Figure 3.20).



Figure 3.19 : Enric Gené and Adam Tovell explain archival damage and restoration of different materials. (Photo by Lin Zhi, 22 August 2023)

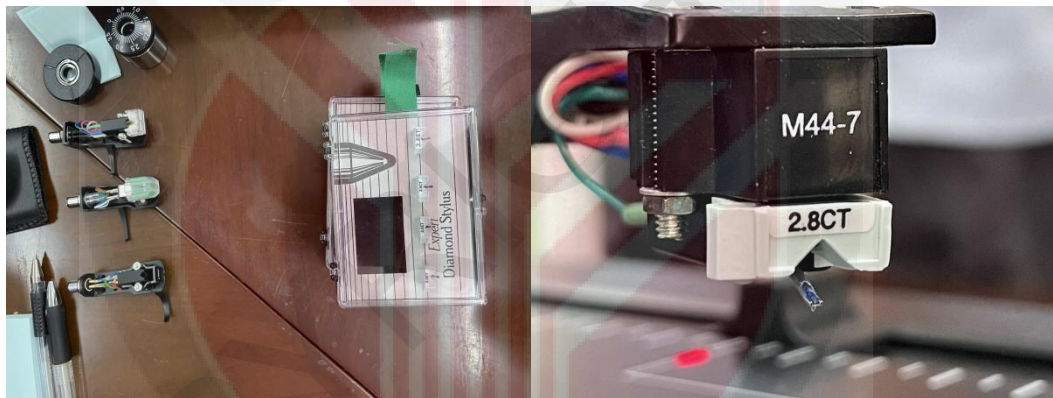


Figure 3.20 : Different models of stylus and their handling introduced during the training (Photo by Lin Zhi, 27 August 2023)

During this experience, one of the deepest feelings for the author is that archivists' sensitivity and stance on archival materials always take the archives as the first principle. Emphasis is placed on protecting, preserving, and accessing archives.

Table 3.1 : Medium or carrier issues

Video Home System		
	Issues	Cause
1	Colour distortion or poor image quality	Oxidation or damage to the magnetic tape, leading to signal loss or interference.
2	Audio distortion or loss	Deterioration of the magnetic coating on the tape, resulting in the loss of audio quality.
3	Tape sticking or jamming	Binder breakdown or stick-slip phenomenon due to age, humidity, or poor storage conditions.
4	Mold growth	Exposure to high humidity or damp environments can lead to the growth of mold on the tape
5	Magnetic information loss	Long-term magnetic decay, which can occur over time, leading to the loss of recorded information.
6	Temperature extremes	Exposure to extreme temperatures (either too hot or too cold) can accelerate the breakdown of tape materials.
7	Chemical deterioration	Exposure to pollutants or chemicals in the environment, leading to the breakdown of the tape's chemical composition.

For the archives of different materials, a series of processing processes, such as cleaning, playback, transcription, digitization, and metadata, should follow the corresponding standards.

3.2.2 The Fieldwork Covered in This Study

There is a concern with the division of research scopes. The categories “national” and “ethnic” are not absolute or permanent. Throughout history, they have been employed to either reject or affirm developments in many social and cultural settings. As a result, cultural consciousness and identity discussions among cross-border groups of individuals are becoming increasingly important to researchers studying specific phenomena (Luo, 2017). The survey objects selected by this sound-bank are Zhuang people in Guangxi, specifically, the sound-bank data from the Zhuang people in three cities along the border of Guangxi, namely Fangchenggang, Chongzuo, and Baise.

There is a need to sort out information regarding the specific distribution of the Zhuang people who live along the Chinese border. It is necessary to do an assessment of their individual social resources and cultural practices.

The Guangxi Zhuang Autonomous Region is known affectionately by some locals as the “The sea of songs.” It is also known as the main settlement of the Zhuang. Zhuang songs are Zhuang music. Zhuang people use songs to express their thoughts, emotions, desires and their will. Baise City, Chongzuo City and Fangchenggang City are the multi-group settlements with sufficient song resources, and the variety of songs is relatively concentrated, which provides convenient conditions for field investigation (Figure 3.21).



Figure 3.21 : Scheme of collecting “songs” are Fangchenggang, Chongzuo, and Baise (Drawing by Lin Zhi, 12 February, 2022.)

This study involves three municipal areas in the Guangxi border area, and it is wide. The Zhuang people in each administratively divided region that the author

encountered during the field research have different appellations for local songs, and the specific appellations will be explained in detail in the section on Zhuang dialect in the next section. If these different appellations are compared to leaves, and when we look at them alone, it is difficult to find the connection between them. We need to find the trunk and branches of the tree of Zhuang songs to explain the classification of Zhuang songs reasonably.

Regarding the categorization of Zhuang songs, there are different criteria in academic circles according to the theme of the songs, melodic characteristics, and Zhuang names, and this study adopts the Zhuang names, which are the names of the various branches of the Zhuang people for their songs. Under this criterion, Zhuang folk songs are divided into five categories: “*fwen*,” “*sei*,” “*ga*,” “*beij*,” and “*luenx*.” (Huang, 1990). After organizing the songs collected in this study, it was found that the types of Zhuang songs involved in the Guangxi border area within the scope of this thesis are *fwen*, *luenx*, and *sei*.

The data for the sound-bank of Zhuang songs were derived from fieldwork that included cultural observations, audio recordings of Zhuang singers, interactions with Zhuang people, and interviews with Zhuang people and their opinions on sound conservation. This study classifies all kinds of Zhuang songs from the perspective of the Zhuang language. It divides them into three levels, which are called “Conceptual category,” “Dialect area board,” and “Specific songs.” The first level of “Conceptual Category” refers to the different appellations of “song” in various native dialects. The second level of “dialect area boards” refers to people in each dialect area who limit their range based on elements such as reference words, occasions, place names, and

group names refined at the first level. The third level of “Specific songs” refers to Zhuang songs collected at different locations within the scope of field work. The hierarchical model is designed as shown below (Figure 3.22).

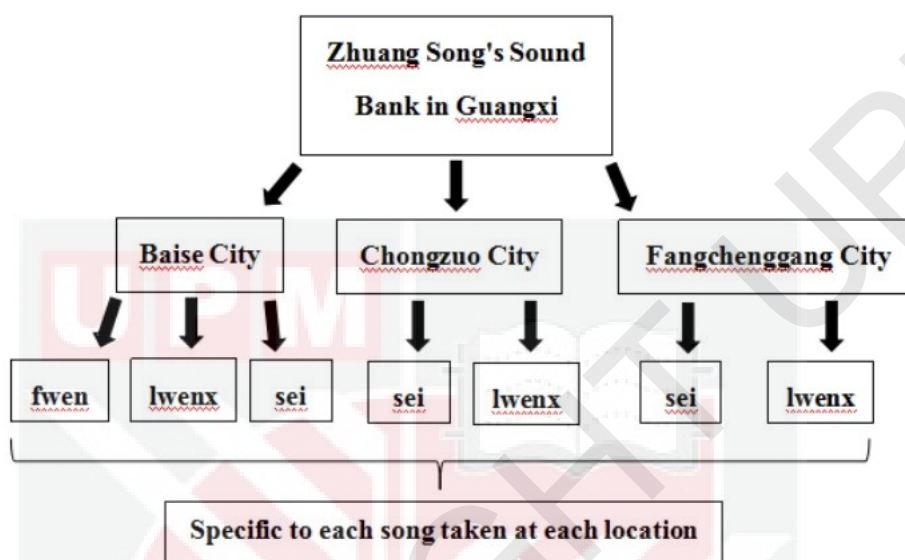


Figure 3.22 : The hierarchical design model of Zhuang song sound-bank
(Drawing by Lin Zhi)

Baise is located in the westernmost part of Guangxi (Figure 3.23). It is the largest prefecture-level city among the 14 prefecture-level cities under the jurisdiction of Guangxi Zhuang Autonomous Region. It is also the only prefecture-level city that borders Yunnan, Guizhou province in China, and also borders Vietnam. There are seven minority groups in the Region, including Zhuang, Han, Miao, Yao, Gelao, Yi, and Hui (The People’s Government of Guangxi Zhuang Autonomous Region, 2013).



Figure 3.23 : The marks in the map are the locations where Lin Zhi collected the recordings in Baise City
(Drawing by Lin Zhi, 12 February, 2022.)

The terrain of Baise City is a typical mountainous area, and the traffic in the old times slowed down the exchange rate of the local culture with external factors to a certain extent. This city is richer in Zhuang culture compared to the other two. This is the main distribution area of the northern dialect of Zhuang, but there are also distribution areas of the southern dialect of Zhuang. Therefore, the regional culture, the living situation of other minority groups, and the characteristic dialect have changed the style of Zhuang songs, catalyzed the development of Zhuang songs in Baise City, and led to the most abundant types of songs.

The author met singers in Neipin Village, Pingguo County, Baise City, they are sing at a pergola. This pergola's roof was built in 2018, located at the far left of the village, a hill with bamboo plants is behind it (Figure 3.24).



Figure 3.24 : The singers and Lin Zhi are talking in the pergola

The local Zhuang language of “Neipin” is *ndaw faiz* [ʔdau fai²], *ndaw* means inside. *faiz* means bamboo. The meaning of *ndaw faiz* is in the bamboo forest. In the ever-changing environment and lifestyle, Zhuang people’s singing occasions and methods, even some tunes, are also changing. The recording of background sounds is an attempt to record the actual scene of the singer singing. “Depending on one’s position in a context, spillover sounds from different directions around a person’s listening environment sometimes distort as well as alter the line between one acoustic condition and the other. That is what makes soundscape unique” (Musib, 2015: 76). When singers sing in different environments, their feelings and the sound waves the listeners receive are also affected, “looking at the frequency spectrum of a source seems a natural way of studying a sound source, perhaps because of the ear’s role as a

frequency analysing device (Davies, 2010: 379)", Spectrum investigations will be used for sound analyses in this thesis.

Chongzuo City borders Vietnam and is located in a hilly plain area (Figure 3.25). Residents in the border area have exchanged some customary habits with Vietnam since ancient times. The Zhuang group in Vietnam mainly immigrated from Chongzuo City of China, which is a feature not found in all other counties and cities in Guangxi except Jingxi, Napo County, and Fangchenggang City. The Zhuang groups in Chongzuo mainly speak the southern dialect of Zhuang, and there is almost no northern dialect of Zhuang. Therefore, Chongzuo Zhuang songs are conducive to obtaining more information compared to the northern dialect area of Zhuang song texts.

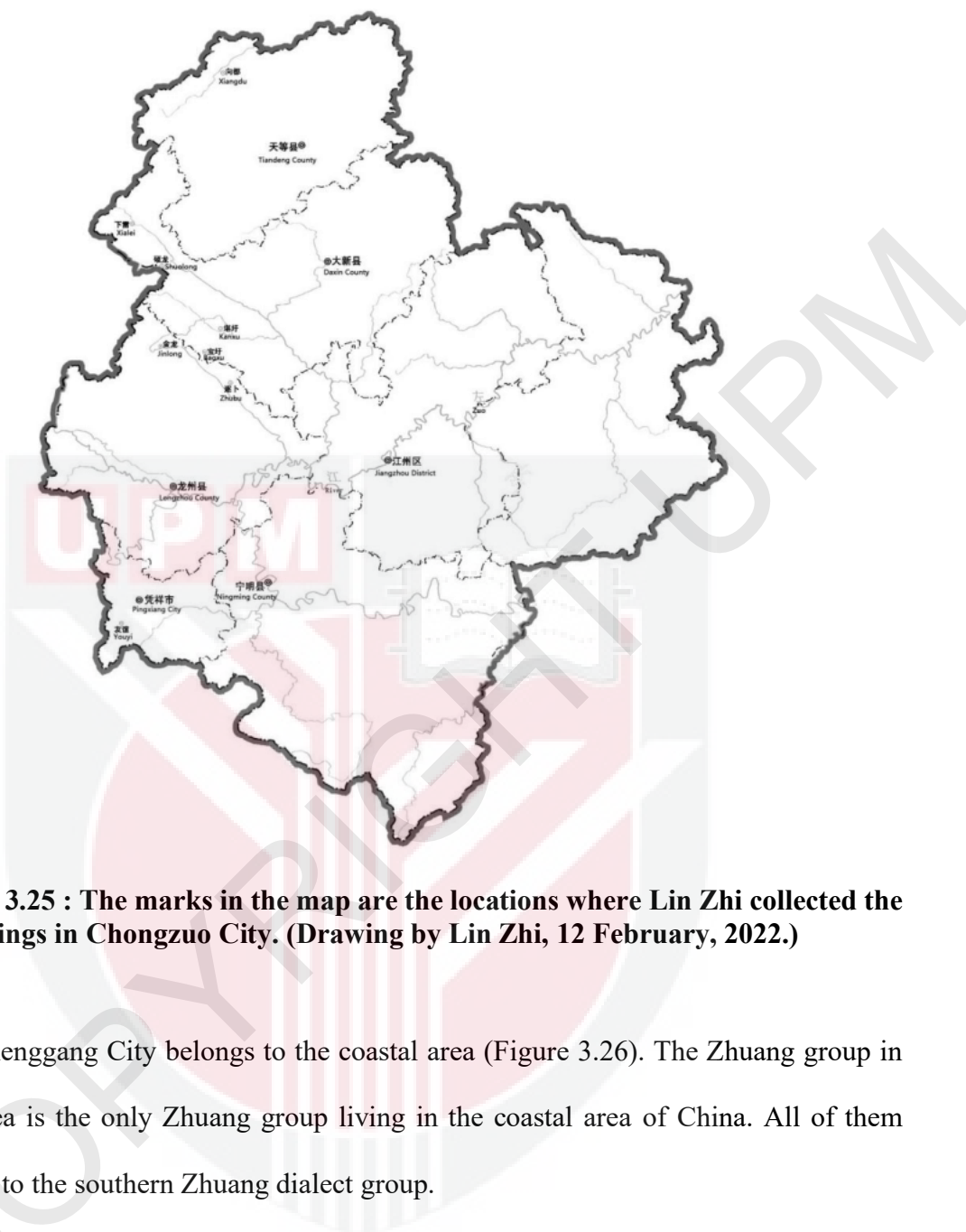


Figure 3.25 : The marks in the map are the locations where Lin Zhi collected the recordings in Chongzuo City. (Drawing by Lin Zhi, 12 February, 2022.)

Fangchenggang City belongs to the coastal area (Figure 3.26). The Zhuang group in this area is the only Zhuang group living in the coastal area of China. All of them belong to the southern Zhuang dialect group.

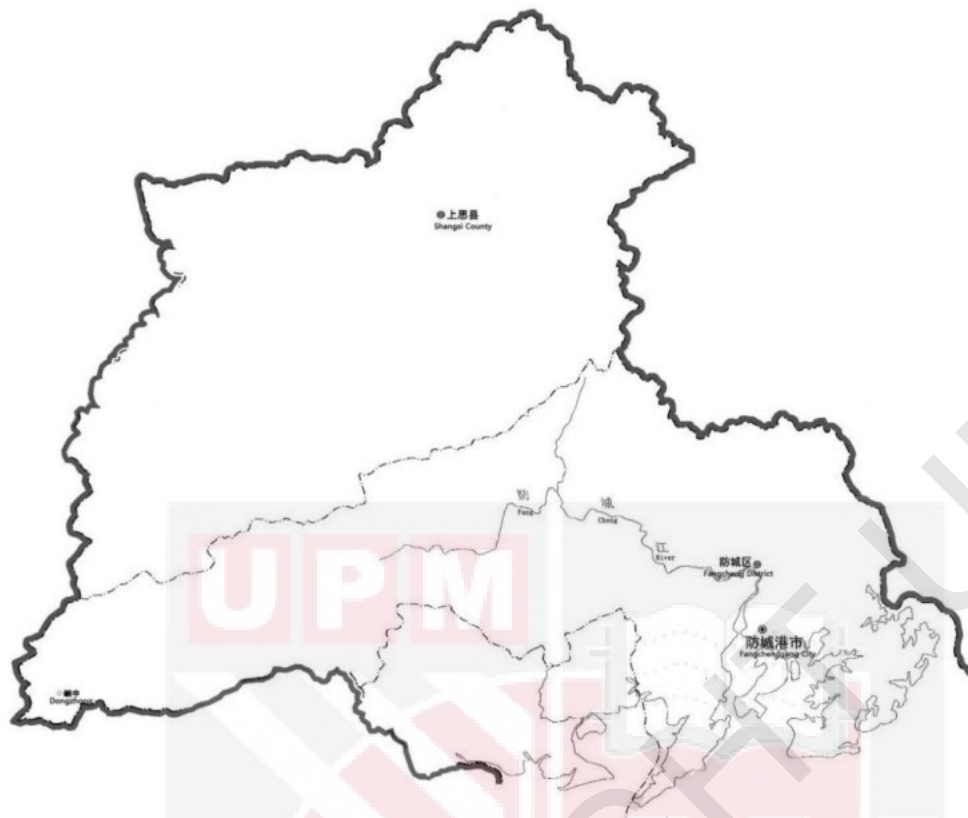


Figure 3.26 : The marks in the map are the locations where Lin Zhi collected the recordings in Fangchenggang City
(Drawing by Lin Zhi, 12 February, 2022.)

In ancient times, they were under the jurisdiction of Guangdong Province, so they were carrying parts of the Cantonese dialect in any spoken and written text. Shangsi County is located in the Shiwan mountain and the border with Chongzuo City, so whether it produces the same song characteristics as Chongzuo city is worth studying.

3.3 Deconstruction, Linguistic Analysis, and the Soundscape of Zhuang Songs

The foundational philosophy for the study of Zhuang song and audio field recording is Jacques Derrida's theories on deconstruction and post-structuralism, which are extensively discussed in critical works such as "Of Grammatology" (Derrida, 1997) and "Structure, Sign, and Play in the Discourse of the Human Sciences" (Macksey &

Donato, 2007). This research goes beyond phonetic recordings to explore the vast realm of environmental soundscapes, examining the relationship between sound and Zhuang people's philosophy.

Within this broader context, the research incorporates a linguistic analysis to unravel the intricate relationship between dialects and phonological intonation within the musical compositions of Zhuang songs. This analytical endeavor includes the poetic categorization of word content and exploring how words function as carriers of sound within these songs.

The research builds upon previous analytical studies; for example, John Widman (2019) wrote that all the Zhuang song's words are often extemporized and must fit a specific rhyme scheme and phrase structure corresponding with significant sections of the tune used to sing. These features provide an excellent lens to examine relationships between music and language. Zhu Tengjiao (2020) stated that it is necessary to study the performance practice of Zhuang people's singing from a holistic perspective so that people can find that the generation and rhythm of Zhuang songs are closely related to the singers' performance behavior, social relations, and singing style. Both have high relevance in contemporary scholarship.

Given the unique characteristics of Zhuang songs sung in diverse village and town dialects and the variations found in the recorded text of songbooks, this study pays attention to collecting the tones of Zhuang dialects from different regions in the sound recording collection. Strategically, there is made use of linguistic research methods to analyze the prosody of the lyrics.

Language is the basic tool for people to spread and receive information. Defining the community through language and accent is one of the commonalities of mankind. This commonality stems from the individual development stages and writing skills. It is a tool for transmitting information in the context of an era that is filled with admiration for the music business. The tool for any modern society is the social use of newspapers, radio, television, mobile phones, and various social media. But in the agricultural era before our times, with limited communication tools, even shouting loudly could have been an effective tool, and then the pursuit of human aesthetics born through ceremonial or ritual associations may have created a song.

Zhuang is an important member of the Tai language family. Chinese linguists (Liao, 2010) divide Zhuang into two dialect groups: Northern and Southern, with the You River as the diaglossal line (Diller et al., 2004: 317). In the author's collection of the fundamental tones of the Zhuang language from Zhuang singers all over the border areas in the province of Guangxi, she found that the above concepts can only be used as a reference for the division of the southern or northern dialect areas of the Zhuang language, and cannot be used as an absolute criterion for judging, that is, there are speakers of the northern dialects of Zhuang in the southern dialect areas of the Zhuang language, or vice versa.

The group name is a sign by which people define and distinguish themselves from others (Luo, 2017: 83). A group's name for itself may reveal the kinship, migration, cultural similarities, and differences between groups, so as to provide powerful reference information to study and elaborate the homology and variability of Zhuang songs. More details will be presented in Chapter 4.

There are different names for ‘singing’ in Zhuang dialects, such as *guh fwen*, *nyaemz sei*, *guh beij*¹³. The different verbs depend on different Zhuang regions and different types of Zhuang songs, for a Mandarin-speaking Han, they all say “shan ge”. “shan” means “mountain”, “ge” means “song”. And it actually describes long-distance communication.¹⁴ Therefore, one of the common features of some of the songs that has become common knowledge is that they are expected to be short, sharp and catchy, which is then often portrayed on stages.

The Zhuang dialects spoken in each region and the names that the various clans of the Zhuang people call themselves are listed in the tables below (Table 3.2, Table 3.3, Table 3.4).

¹³ Different Zhuang songs are called by different people in different regions.

¹⁴ Recently, most Zhuang people also use Chinese for communication, so, linguistic terms are often used in their Chinese appearance.

Table 3.2 : How the Zhuang people in Baise call the various branches and their songs

Baise City		Name of the group ¹⁵	Dialects	Source of name	How to call the term “song”
Xilin County	Nazuo Village	pw noengz [phui' naŋ ²]	The Southern dialect of the Zhuang language	“noengz” is related to the historical figure Nong Zhigao, including the southern dialect people and the northern dialect people; “yaej” is one of the oldest name of the Zhuang and Buyi groups. There are many records in ancient books, but the characters in Chinese are different. Such as 越、夷、施, which are all related to northern dialects of Zhuang language.	luenx[ɬə.n ⁴] vwen[wui.n ¹]
		bux yaej [pu ⁴ ʔjai ⁴]			
		bux nah [pu ⁴ na ⁶]			
	Renpan, Nazuo Village			“nah” is related to ancestral place names.	vwen[wui.n ¹]
	Xiping Nalao Bapen				
Longlin Various Nationalities Autonomous County		bux yaej [pu ⁴ ʔjai ⁴]	The Northern dialect of Zhuang language	“yaej” is one of the oldest names of the Zhuang and Buyi groups. There are some records in ancient books, but the characters in Chinese are different. Such as 越、夷、施, which are all related to the northern dialects of Zhuang language.	vwen[wui.n ¹]
Longlin Various Nationalities Autonomous County	Shali				
	Yancha				
Tianlin County	Dingan Lizhou				fwen[ɬui.n ¹]

¹⁵ Using Zhuang characters and international phonetic symbols, Zhuang characters is completed under the guidance of Zhuang language scholar Liu Jingliu.

Table 3.2 : Continued

Youjiang District	Liulian, Baiyu	bux doj [pu ⁴ to ³]	The Southern dialect of Zhuang language	“doj” comes from the Chinese “土”, meaning native or local. Compared with the Han, that is, “guest /hek (kek)”, “soldier (gun)”, doj include groups which are speaking northern dialect and southern dialect of Zhuang.	fwen[fuːn˧˥]
		bux doj [pu ⁴ to ³]			fien[fian˧˥]
Tianyang District	Xinmin, Baiyu	bux nganx [pu ⁴ ŋaːn˧˥]	The Northern dialect of Zhuang language	“nganx” comes from the Chinese character “眼”, which refers to longan tree, but it is actually a place name here, that is, the abbreviation of ancient Tianzhou, because the ancient Tianyang area is rich in longan trees.	fien[fian˧˥]
	Nalou, Yufeng	bux doj [pu ⁴ to ³]			fien[fian˧˥]
	Lianpo, Touzhen	bux yang [pu ⁴ ʔjaːŋ˧˥]			fwen[fuːn˧˥]
	Gumei, Pohong	pouj toj[pou ³ tho ³]			sei[ɬei˧˥]
Debao County	Babie	boux noengz [pu ⁴ noŋ˧˥]	The Southern dialect of Zhuang language		fwen[fuːn˧˥]
	Ma'ai				
Jingxi County	Du'an				
	Quyang Longbang				
Pinguo County	Matou				fwen[fuːn˧˥]

Table 3.2 : Continued

	Longjiang, Fengwu	boux minj [pou ⁴ min ³]	The Northern dialect of Zhuang language	The ancestral place names “minj”. They use it to call themselves.	fwen[fu:n ¹]
	Siren, Fengwu	boux dingh [pou ⁴ tiŋ ⁶]		The ancestral place names “dingh”. They use it to call themselves.	fwen[fu:n ¹]
	Tonglao			/	fwen[fu:n ¹]
	Jiucheng			/	
	Xinxu, Taiping			/	
	Qiliang, Taiping	boux doj [pou ⁴ to ³]		/	
	Longba, Guohua			/	
	Boli, Guohua			/	fwen[fu:n ¹]
	Longse, Guohua	boux noengz [pou ⁴ noŋ ²]		/	
	Xinhua, Xin'an			/	fwen[fu:n ¹]
Silin, Tiandong County	Sitang	boux doj [pou ⁴ to ³]		/	
	Shanglie, Yexv			/	
	Haicheng			/	
		boux doj [pu ⁴ to ³]		/	fien[fian ¹]
				/	fwen[fu:n ¹] luenx[lə:n ⁴] pwen[phu:n ¹] (=luenx[lə:n ⁴])
Napoo County	Chengxiang	yang[ʔja:ŋ ¹] toj[tho ³] (=yang[ʔja:ŋ ¹])]	The Southern dialect of Zhuang language	/	

Table 3.2 : Continued

		yaɛj[ʔjaɪ ⁴]	The Northern dialect of Zhuang language		
Pohe		yang[ʔja.ŋ ¹]	yang, min, toj: The Southern dialect of Zhuang language yaɛj: The Northern dialect of Zhuang language	“Min” is still not clear the reason, it’s presumed to be “Yao people”. They call themselves Min, and in ancient times of inequality, Yao was often used by Han-Chinese speakers as a metaphor for people living in poverty in the mountains.	fwen[fu.n ¹] luenx[lə.n ⁴] pwen[phu.n ¹] (=luenx[lə.n ⁴])
Longhe		yaɛj[ʔjaɪ ⁴]			
Baidu		min[min ¹]			
Baisheng		toj[tho ³]			
Baihe		(=min[¹ min])			
Pingmeng					

Table 3.3 : How the Zhuang people in Chongzuo City call the various branches and their songs

Chongzuo City	Name of the Group	Dialects	Source of Name	How to call the term "song"
Tiandeng County	toj[tho ³]	The Southern dialect of Zhuang	/	sei[tei ¹]
Xiangdu Town, Tiandeng County	toj[tho ³]		/	sei[tei ¹]
Daxin County	Urban area		/	sei[tei ¹]
	Xialei Town		/	si[hi ¹]
	Shuolong Village			
	Kanxv Town			
	Baoxv Town			
	Salian Village			
Urban area	noengz[noŋ ²] toj[tho ³] (=noengz[noŋ ²])		/	si[hi ¹]
	taez[thai ²] noengz[noŋ ²] toj[tho ³] (=noengz[noŋ ²]; =taez[thai ²])			
Long zhou County	Jinglong Town			si[hi ¹] luenx[la.n ⁴]

Table 3.3 : Continued

	Zhubu Town	taez[thai ²] noengz[noŋ ²] toj[tho ³] (=noengz[noŋ ²]; =taez[thai ²])	/	si[hi ¹] luenx[le.n ⁴]
Jiangzhou District, Chongzuo City		toj[tho ³]		
Ningming County		toj[tho ³]		sei[tei ¹] sei[tei ¹]
Pinxiang County		noengz[noŋ ²] toj[tho ³] (=noengz[noŋ ²])		si[hi ¹]

Table 3.4 : How the Zhuang people in Fangchenggang City call the various branches and their songs

Fangchenggang City	Name of the Group	Dialects	Source of Name	How to call the term "song"
Fangcheng District	mbanj[ɰba.n ³]	The Southern dialect of Zhuang	mbanj means village. Zhuang people living in this area refer to themselves as mbanj, meaning villager, a self-designation that distinguishes them from the Han people who are living in urban context.	san go[la.n ¹ ko ¹]
Shangsi County	toj[thø ³]		/	sei[tɕoi ¹]
Dongzhong Town	daez[tai ²] pien[phi:n ¹] (=daez[tai ²])		Pien comes from the Chinese character “偏”, which means remote. It is relative to the Han nationality populated areas, Pien was originally the Han people for the Zhuang people in this area, and now it has been gradually recognized by the Zhuang people in this area. Pien and Daez are used together.	luenx[le:n ⁴]

“Song” is seemingly an isolated term that represents specific cultural associations. For some people, there is a way of entertainment in life connected to it. After personal observation there was a clear impression, that all Zhuang people met in some cultural contexts, like rurally educated Zhuang people regard singing as a talk, an exchange of ideas and information in general, which symbolizes a way of communication that they often took for granted in their past lives (Li¹⁶ & Lin, 2021). Singing was just another way to “say a thing.” This perception of thoughts through Han-Chinese visitors and learners of the language might be questionable from the viewpoint of decolonizing efforts. Each song comprises of a defined circulation area during the creative process. The style and qualities of songs in different areas indicate specific characteristics based on their immediate environment, local language dialects, and mainly their social backgrounds. These songs’ lyrics are based on the people’s spoken dialects. As a result, different voices of these dialects, ways of making songs sound, local accents, terms used, and exclamations that have been incorporated into these songs, resulted in some regional differences of song texts (Lin, 2020).

¹⁶ Li A’fei was born on 17 July, 1984.

CHAPTER 4

RESULTS AND DISCUSSION

The sound-bank adopts ethnographic recording methods in the sound collection stage. It applies standard archival recording methods to record the sound archives of Zhuang songs in the later archive document. It aims to present the complete environmental background of Zhuang songs at the time of sound collection and emphasize the importance of context and background.

This chapter provides a descriptive analysis of the recordings through a spectrogram based on audio data of Zhuang songs collected in the border areas of Guangxi, focusing on the relationship between the Zhuang songs survival environment and the songs and the importance of audio-visual archival methods, with the aim of actively exploring ways to promote the conservation of Zhuang songs.

4.1 The Concept of This Sound-Bank

Ethnographic audio recording is distinct from studio recording practices, as it aims to capture the complete soundscape and preserve the contextual elements that are integral to the experience of Zhuang songs. Instead of considering ambient sounds as unwanted noise, ethnographic recording embraces them as valuable components that contribute to the authenticity and cultural significance of the music. The sound-bank captures not only the human voice of the singer but also other sounds in the same context when the singer is singing, including but not limited to the sounds of the singer, the sounds of the listener discussing, and the sounds of the surrounding environment. By recording in the original acoustic environment, the richness and complexity of the performance

are preserved, providing a more immersive and holistic representation of the Zhuang singing.

Depending on the singing site needed, it can include different listening perspectives. The first perspective involves the sound producer, capturing the experience from their point of origin. The second perspective revolves around the addressees or the immediate audience, reflecting their perception of the sound. Lastly, there is the perspective of accidental listeners, often situated at a greater distance from the source of the sound (Figure 4.1). The singing of Zhuang songs is well-suited for the approach of contextual sound preservation as one of its singing is in the form of “calling” and “answering”, which can also be called “antiphonal singing.” This approach involves distinct male and female groups performing at a specific distance. To capture this characteristic, the collection of Zhuang songs is carried out from three different positions, allowing for a comprehensive representation of the singing. So, these perspectives include all sounds, not only the cleaned up recording.

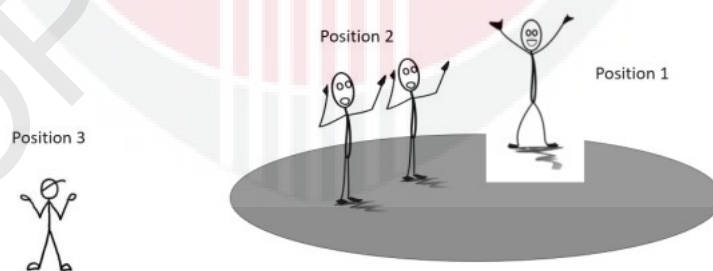


Figure 4.1 : Sound-bank recording positions needed. The simultaneous recording of sound from 3 different perspectives that are characterized through different involvements delivers the best possible outcome (Jähnichen, 2022:42)

The cleaning up of recordings was and is still a great danger as exactly the sound cleaned up is part of the embedded context that carries information about space and

time was removed. Regarding every recorded assessment of the selected entities, as explained in the study's Chapter 3, it is evident that the primary content is inadequate for sound preservation as content of the ambient sound were completely absent.

In many existing recordings of Zhuang songs, the current practice often prioritize the singer's voice by taking them to a recording studio or a controlled environment for the performance. Ambient sounds are typically deemed as undesirable 'noise' in this context. This practice is also evident in the early fieldwork recordings conducted by the author. In 2016, the author did the first fieldwork on Zhuang songs in Napo County when she was a second-year master's student, and the first stop of the fieldwork was the Cultural Centre of Napo County, Baise City. It was very coincidental that the singer Luo Jingchao was about to sing and record in a recording studio-like room with acoustic treatment at the fourth floor of the Cultural Centre together with another female singer, Pan Xiucui, who very warmly said, "We are going to record, you can watch and record at the same time" (Figure 4.2).



Figure 4.2 : Luo Jingchao (Right) and Pan Xiucui (Middle) are singing in the recording room. (Photo by Lin Zhi, 18 October 2016.)

It was the first time the author listened closely to the singer. The first impression was that the singer's voice was loud and clear, the breath was long, and the melody had many ornaments. In subsequent inquiries, Luo Jingchao said that the song is about congratulating their relatives on moving into a new house. Seeking a quiet environment while the singers were singing, getting clean recordings, and then transcribing them for melodic analysis was the author's working mode at that time. However, half a year later, the author got a chance to see a group of singers singing at a Zhuang wedding, where the atmosphere was completely different from the clean sound in the recording room.

In Zhou Guowen's book (2015), the Zhuang song "*luenx yang*" from Baise City is described, mentioning three types: *Gaotan* (高坛), *Zhongtan* (中坛), and *Ditan* (低坛). During a visit in 2018, the author had the opportunity to inquire about these types from Luo Jingchao. From the interview, the author further learned that in addition to the role of *gauq tanz* [ka:u⁵ tha:n²], *zungq tanz* [tsuŋ⁵ tha:n²], *diq tanz* [ti⁵ tha:n²], and *luenx tanz* [luen⁴ tha:n²], there are two aspects to singing songs: the singer's surroundings and the Zhuang people's aesthetic standards. This approach highlights elements like "respecting the elderly" and "respecting the guests," which highlight the social dynamics present in Zhuang songs (Lin, 2020: 70).

During the data collection in October 2022, in Pingguo County of Baise City, the author was greatly assisted by Huang Guoguan, who serves as the president of the local Zhuang Song *fwen raeuz* Association. The author respectfully referred to Huang Guoguan as "*au*," which means uncle in the local dialect. Under his guidance, the

author had the opportunity to visit several Zhuang singers in Pingguo County. The author arrived at the home of singer Huang Fujia in the evening on October 16, where located in Gulang Tun, Shanglie Village, Yexu Township.

During the recording process, the four singers were singing in the living room. When au saw that the author had placed a hand-held recording machine on the wall of neighbor's yard, which was about 10 meters away from the singer, he asked the author in confusion, "Why do you put the recording machine outside?" Instead of answering, I asked him, "*au*, what would you think if you heard someone singing in the distance?" He said, "The first thing I thought was, is this someone I know? If it is a friend, I may answer him with a song. If it is not a familiar voice, I will listen to what he is singing, and what happens."

The recording method employed by other studies varies depending on their specific objectives. Single recording position is advantageous for analyzing the melody, it may not be ideal for the approach of sound-banks method of collection. Sound bank recordings are to give a choice of listening perspectives. In the procedure of creating sound-banks, these recordings have to be conducted at the same time with the same people, in the same context of sound production. There is no aim to sell the recordings or to use them for cleaning ups. The social value is regarded to other parts of the research. It seems that collecting sound for one's own research output in the shape of writings and publishing is a specific traumatic issue and regarded as a bit selfish in a historical way (Jähnichen, 2023).

Parts of the audio materials are recorded from three perspectives: Position 1 depicts identifying song elements. The direct addressee's viewpoint at position 2 captures traditional singing practices, and the passerby's position 3 examines the accidental perception of Zhuang songs. Each position of a spatially arranged multi-perspective recording captures content and its functions as follows.

Table 4.1 : The role of position 1

Position 1	
Producer's viewpoint - Identification of Song Elements	
Equipment	ZOOM H1N
Format	.WAV
Focus	Dialects, tonal characteristics, lyrics, redundant syllables
Method	Utilize X-Y coincident pair digital audio recorders
Additional Aspect	Capturing spatial information

Table 4.2 : The role of position 2

Position 2	
Direct addressee's viewpoint - Capturing Traditional Singing Practices	
Equipment	Tascam DR07X/ZOOM H5
Format	.WAV
Focus	Recording singers in various traditional settings
Method	Use digital audio recorders, positioned 10 meters from position 1
Additional Aspect	Include singers using online platforms

Table 4.3 : The role of position 3

Position 3	
Passerby's viewpoint - Examining Cultural Practices	
Equipment	ZOOM H5
Format	.WAV
Focus	Cultural practices and transmission of culture within geographical regions
Method	Utilize eagle eye stereo microphone capsule
Additional aspect	Collect contextual variations across regions

There is undertaken an analysis of recording techniques' impact on fidelity. To analyse the sound recording technique used in the recording gives the listener or user either high quality or normal quality according to his/her needs. To that belongs the setting of the recording equipment, and the placement of the microphone according to the singing scene.

The singing form and number of people was estimated. Observed were mainly antiphonal singing, solo, a single part or double voice, and the number of male and female singers.

The spatial context provided by the microphone at the first position reflects the position of the male and female singers when they sing, and the X-Y Coincident microphone provides a critical examination of the Zhuang singing practice. The stereo left-right arrangement allows for an in-depth analysis of the interaction between the male and female singers. The X-Y microphone enables the differentiation that the singing of Zhuang songs is at such a position.

With the singer's location at the centre, there were recorded the sound of the surrounding environment with a radius of 30 meters to 50 meters to reflect the sound field of the ecological environment of the singer.

The geographical environment has its part in the formation of the melody of Zhuang songs in different regions. For example, Zhuang people in the mountains were previously restricted by the terrain and transportation, so the pitch is higher to make the singer hear the sound from afar. Some Zhuang people, who live near the river, have softer melodies. However, after stepping into contemporary times, people's way

of working is no longer limited to farming, and some Zhuang people even give up farming life. Zhuang singers' settlements are often found in parks or reflected purely on mobile phones, and the change of singing places will inevitably produce different sound waves.

One of the essential social functions of antiphonal singing among the Zhuang people is to find a partner. Traditional singing customs say unmarried men and women cannot be in the same room when antiphonal singing at night. However, the young generation does not even know how to sing Zhuang songs, and the once-important social functions appear weak or disappear. Nowadays, the social function has changed to an entertainment function. The identities of singers have changed from unmarried males and females at that time to grandparents. There were no restrictions on places when singing some songs in the past.

Compared with position one, position two can record a broader range of environmental sounds, such as the reaction and discussion of the direct audience to the singer's performance.

Antiphonal singing through social media platforms is common among contemporary Zhuang singers, who use social media in order to send voice messages while singing with other singers in parks or on outdoor occasions.

A vague singing comes daily around 4:30 p.m. from the village's main road. As soon as the author shows his puzzled look, the villagers are told that this is the tofu seller's motorcycle loudspeaker playing music.

People gradually form memories of the sounds around their long-term environment step by step and rather subtly. People living in Zhuang areas recall the scenes of activities through Zhuang songs

Assessing how well the recording method captures a wide range of sounds during Zhuang singing there could be seen that any kind of recording involves direct checking if the various elements such as the singer's voice, surrounding sounds, and environmental noises, providing a comprehensive and detailed representation of the overall auditory experience during Zhuang singing are effectively captured .

The author observed that whether in the country or town, the casual audience attracted by the song is often the elderly; they will stop the work in progress, look at the direction of the singing, and even try to get closer and listen.

There are involved an understanding of how the auditory elements, like traditional songs and surrounding noises, play a role in preserving and transmitting the cultural practices and heritage of the Zhuang people highlighting the key focus areas, employed methods, and additional aspects in the spatially arranged multi-perspective sound preservation focused on the Guangxi border areas.

4.2 Recording Technique

Based on the sound field, Musib (2015: 76) proposed a model for sound-bank preservation, conducting a soundscape preservation study on local Musical Instruments such as *Gong* and *Sape* in the longhouse in Annah Rais, Sarawak. He emphasized focusing on the distance between the ambient sound of the space and the

sound source, establishing a spatially arranged multi-perspective recording for sound-banks. At the same time we wanted to create an acoustic space for the audience to perceive the recording at the time. The main element of soundscape is the listener's recognition of the source materials and the listener's knowledge of the environment and the psychological context (Truax, 2001: 240).

In this study, the multi-perspectives recording method was adopted in the field recording period, mainly in the park where singers gathered, the village where singers lived, and other appropriate scenes. The following perspective depicts the recording workflow for a sample sound analysis of Zhuang song sound-bank recording design.

4.2.1 Recording Workflow

In order to determine the ideal sound characteristics of the Zhuang songs for audio preservation, one must first understand the Zhuang songs from the perspective of the performer (Zhuang singers), the archivist (preservationist), and the sound engineer (recordist). Most of the recordings collected and evaluated in this research were a mixture of the common acoustic type of Zhuang songs and the electric versions produced in various contexts such as the park and village. Other materials that are to be reviewed are sound recording products that were extracted from various recording mediums. The view of the singer, archivist, sound engineer, as well as the assessment and interpretation of related literature toward what is expected in an audio recording of the Zhuang songs that are of good quality, are taken into consideration in the construction of an evaluation scheme in order to review the recording quality of Zhuang songs from the perspective of sound preservation. Musib (2016) mentioned that the research of evaluating contextual sound preservation from the perspectives of

performers, sound engineers and archivists should always be constructed around the three main principles of preference, importance, and experience.

The content of the scheme will be constructed based on three main principles:

what is 'preferred', based on the judgment of the recorded materials;

the 'importance' or 'significance' of the substance;

the 'experience' or 'understanding' of the three parties mentioned earlier towards sound preservation of the local string instrument. An abbreviation of these three terms—P.I.E. (Preferred, Importance, Experience) will be used throughout the paper (Musib, 2016: 95).

The main focus of P.I.E. elements is on the importance of the sound source in this discipline. When the singers sing, the microphone in position one uses the X-Y Stereo (coincident pair) (Figure 4.3). Playing the recording in the audio software can more intuitively show the difference between the left and right channels when male and female singers sing respectively (Figure 4.4).



Figure 4.3 : X-Y Stereo (coincident pair) recording range at position one

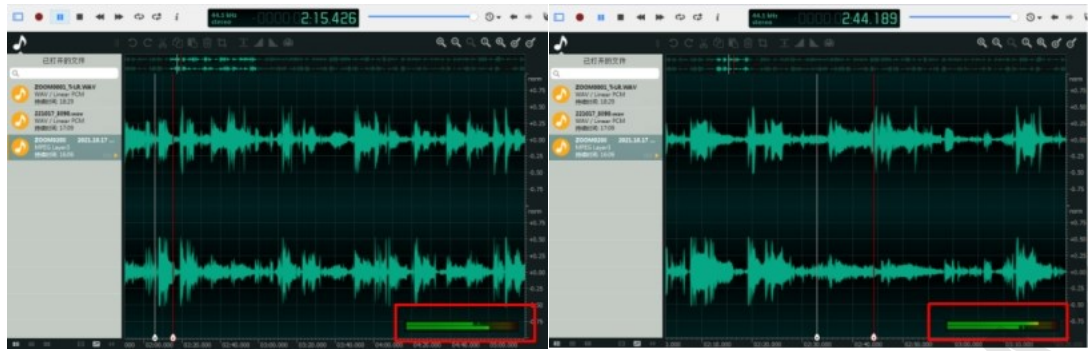


Figure 4.4 : The left and right channels of the X-Y stereo

The microphone of position two or three can be converted into X-Y Stereo in actual operation, especially for position three. Because the recording distance is the farthest from the sound source, the orientation difference is large, so there will be chosen the near-coincident microphone recording mode (Figure 4.5).

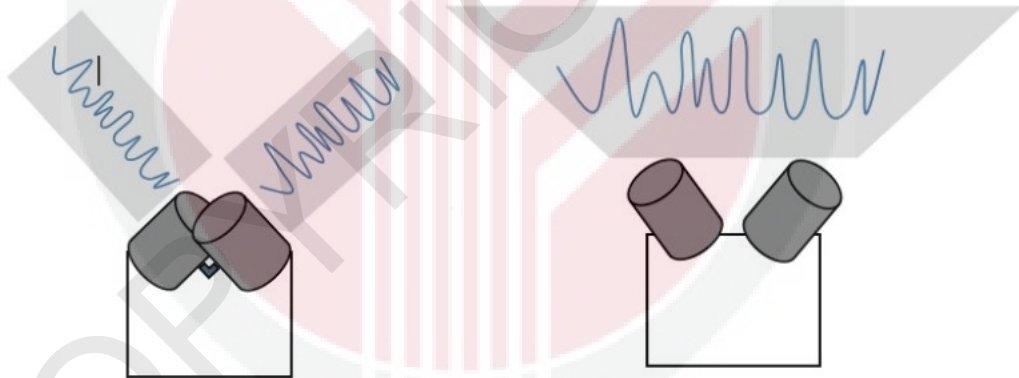


Figure 4.5 : X-Y stereo (coincident pair) (left) and near-coincident (right) microphone of sound collection range, drafted by Lin Zhi)

The author met a singer, Wei Zhilian, in the Jiangzhou District of Chongzuo City. According to her, 13 kinds of Zhuang songs are in this area, each using different rhymes. Wei lists nine that are commonly used today: *giu lienz* [kiu³³ lien²¹], *gaem ngaenz* [kam³³ ŋən²¹], *giu yungz* [kiu³³ juŋ²¹], *giu meiz* [kiu³³ mei²¹], *lien z gai* [lien²¹

ka:i³³], *max ca* [ma⁵³ tsha³³], *dingx seng* [te:ŋ⁵³ le:ŋ³³], *gai laeuz* [ka:i³³ lou²¹], *giuz cang* [kiu²¹ tsa:ŋ³³]. Among them, *dingx seng* represents the meaning of ominous and unpleasant, so it is relatively rarely used. The following song “What a heaving night” sung by Wei uses the rhyme of *max ca*.

The audio was recorded around 9:30 p.m. Wei Zhilian’s home is located on the first floor of a residential building in an urban area. The first floor of the residential area is characterized by an outdoor garden with an area of about 30 square meters (Figure 4.6). The audio recording place is in the garden gazebo. At this time, the community has become quiet, only the singing of Wei and occasionally the voices of people passing by the garden.



Figure 4.6 : The environment when Wei Zhilian was in a conversation with Lin Zhi, (Photo by Liu Jingliu, 10 September 2021)



Figure 4.7 : Spectrogram of Wei Zhilian's singing

The multiple horizontal lines represent the harmonics Wei Zhilian voice timbre of each tone sung. No 'haze-like image' is observed in the spectrogram. This indicates that the singing was recorded in its actual context where the microphones are in close proximity.

Position three (referred to as position three), serves as an accidental (mostly farther away) listener, capturing the sounds of other groups that are not the primary focus. Including this perspective provides a comprehensive portrayal of the acoustic environment and enriches the overall recording.

4.2.2 Sample 1: Gantuoyan Cave, Napo County

Guantaiyan is a karst cave (Figure 4.8). The Napo County Museum and Cultural Centre are in front of the cave. The cultural centre organizes the local singers to have a New Year singing competition every year since 2001. Luo Jingchao said: "However,

in recent years, local singers do not gather here or in other local public places to sing spontaneously except for events organized by the government.” The author attended the singing competition twice in 2017 and 2018, and the audience was large, but most were middle-aged and elderly (Figure 4.9, Figure 4.10).



Figure 4.8 : Natural caves in Gantuoyan. LON: 105.840557, LAT: 23.415094, (Photo by Lin Zhi, 12 September 2023.)



Figure 4.9 : Nabo County 2017 Spring Festival Zhuang singing competition. (Photo by Lin Zhi, 1 February 2017.)



Figure 4.10 : Nabo County 2018 Sanyuesan Festival singing competition. (Photo by Lin Zhi, 13 May 2018.)

The Zhuang people in Napo County call the local song *luenx yang*, which belongs to the conceptual category *luenx*. If someone came to the village, and no one came to respond to a song, it would be considered rude by those who know about it. Nowadays, most people move from villages to cities, and this custom no longer exists. A man and a woman according to the ingrained habits sing it in turns. There are no specific rules about who starts first. In the far past, male singers usually started singing first when it came to finding a mate.

The spatial context provided by the first microphone position with X-Y coincident pair microphones in the cave offers a critical investigation of Zhuang song singing practices. The stereo left-right arrangement allows for an in-depth analysis of the interaction between the male and female singers. The X-Y microphone enabled the identification that the singing of Zhuang songs is at such a position (Figure 4.11).



Figure 4.11 : Luo Jingchao (male) and the female singers are singing in the Gantuoyan Park (Photo by Lin Zhi, 12 September 2023.)

As seen in position one in the spectrogram analysis, left or right can visualize this activity (Figure 4.12). The amplitude describes that the song is sung loud as this was the past practice in the mountains (Figure 4.13). Now, it was to become one of the criteria for a good singer.



Figure 4.12 : Left (Male) and right (Female) channel level diagram of the singer singing separately



Figure 4.13 : Amplitude of the wave-picture

The natural acoustics of the cave became a crucial element in understanding the cultural context of Zhuang songs, emphasizing the significance of the location in shaping the singing practice. This spatial representation not only enhances the recording but also provides insights into how the sound elements are intertwined within the social function of singing in a specific location. Spectrograms can also be used to directly observe the resonance of the singer's voice in the cave's sound field (Figure 4.14).



Figure 4.14 : A screenshot of a female singer's singing in a spectrogram in the cave

The objective of the position two in this study is to develop sound ecological perspectives that advocate a spatial multi-perspective preservation, emphasizing the Zhuang songs and its connection to local communities. The second microphone position, situated 120 meters away, aligns with the objective of developing sound ecological perspectives. Left or right as these are clearly seen on spectrogram analysis able to visualize of this activity (Figure 4.15). Spectrogram analysis showing the amplitude of the surround sound were passive and unfocused, hence able to describe the surrounding activities (Figure 4.16).



Figure 4.15 : A spectrogram from the recording in position two

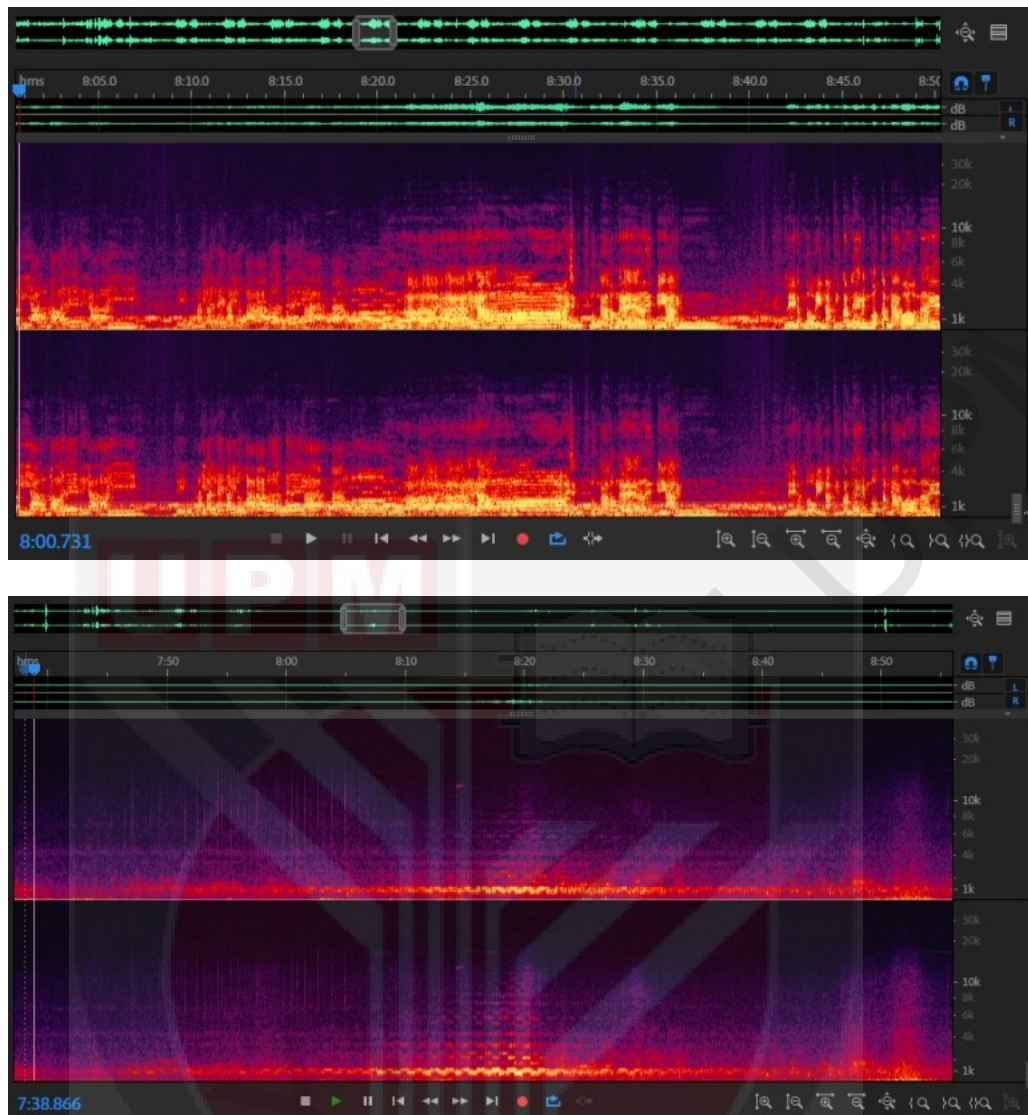


Figure 4.16 : This spectrogram shows the movement of a complete ambulance sound from far to near and then gradually disappearing forming the Doppler effect. (a) above: Audio clip from position one, and (b) below: Audio clip from position two

The recording becomes a multi-perspective preservation material by capturing ambient sounds and social activities around the cave. Including diverse elements such as motorbike passersby, language chatter, footsteps, bats, electric motorcycles, ambulance sirens, and fireworks emphasizes the interconnectedness of Zhuang song with the broader environment. This holistic approach advocates for preserving the

song and the entire sonic ecology surrounding the cultural practice, highlighting its unique connection to the local community.

The findings align to compile recorded song samples into an archive. The spatial and social dimensions captured by the two microphone positions create a multi-perspective sound archive. Categorizing these recordings by region (Napo), song type (*luenx yang*), and dialect ensures a comprehensive representation of the cultural heritage. Moreover, the technical details mentioned, such as using X-Y coincident pair microphones, contribute to developing sound engineering tools and efficient workflows for constructing this archive. The inclusion of ambient sounds adds depth to the archive, making it a valuable resource for preserving the nuances of Zhuang songs within a broader cultural and environmental context.

The sound recording is a multi-dimensional preservation material that sums up cultural, social, and environmental aspects. It provides a rich and immersive representation of the place, location, and landmark of the Gantuoyan Cave located in Napo County, Baise City, fulfilling the objectives outlined in examining, developing perspectives, and compiling a comprehensive archive. This approach ensures the holistic preservation of the Zhuang song, not only as a musical practice but as an integral part of the community's identity, social dynamics, and environmental context.

The collection process prioritizes social dynamics and daily interactions, offering a deeper understanding of cultural soundscapes and incorporating dynamic social activities within different proximities.

4.2.3 Sample 2: Jiangbin Park, Pinguo County

Luoqin mentioned that music epitomizes the history and cultural development of the city in which it exists. When people listen to this music, they can associate it with some of the cultural characteristics and phenomena that are unique to this place (Luo, 2020). The development of the times has led to a change in people's lifestyle, and parks have become the main places for people to socialize.

Jiangbin Park is located in the urban area of Pingguo County in Baise City, next to the You River, and is one of the main gathering places for Zhuang singers (Figure 4.17). The singers meet here every day from 3pm to 5pm except the bad weather. Even singers from the surrounding area of Tiandong County, they also drive or take public transport for two hours to meet here to singing. The songs of Pingguo County are known '*raeuz*', with double voice. The male singers usually sing first with holding the songbook, and the female singers sing will follow the context which male singer is singing.



Figure 4.17 : A group of singers who were singing in Jiangbin Park, 9 September 2023

Position one involves capturing the distinct sound sources produced by male and female singers, defining the left and right audio channels. From the recordings in this

location, it can be found that the songs of *raeuz* are composed of two vocal parts, one high voice and one low voice for both male and female singers. There are always high voice singing first, the low part joins after the high part sings a liner. (Figure 4.18). Positions two and three are dedicated to capturing the soundscape of Jiangbin Park (Figure 4.19).

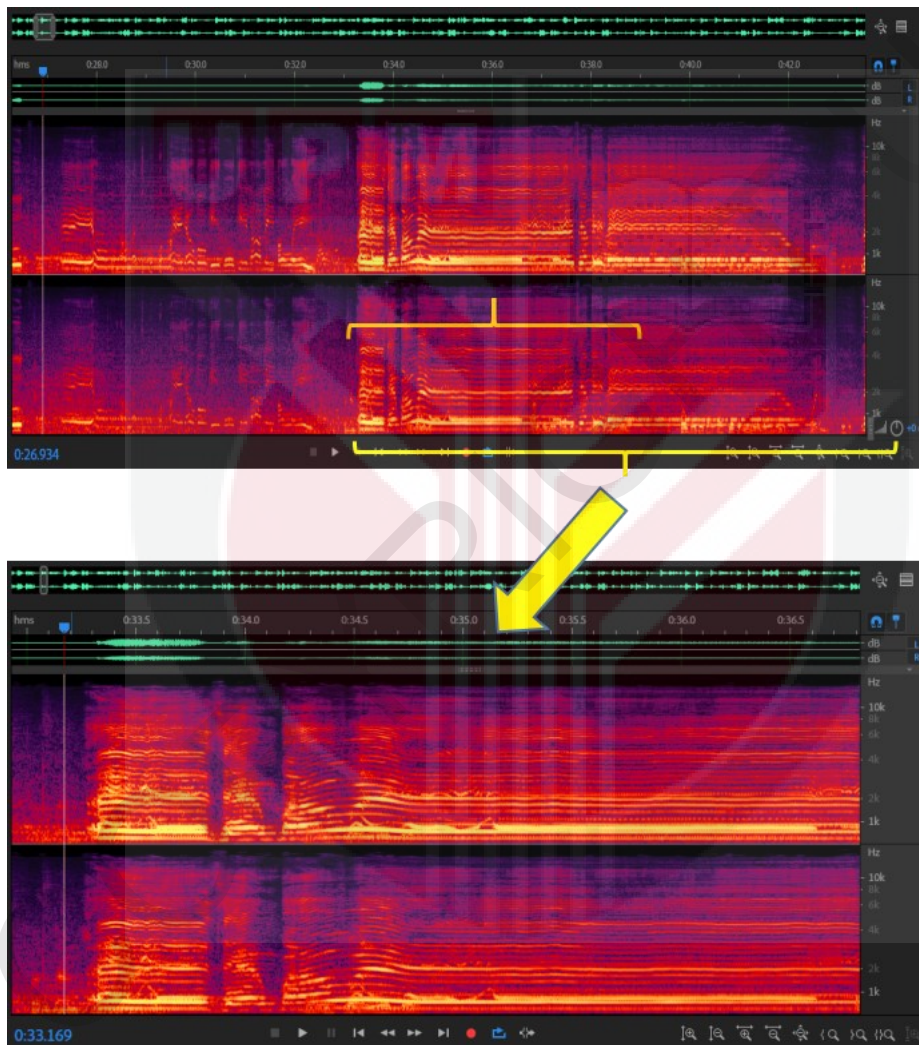


Figure 4.18 : Voice track



Figure 4.19 : A group of singers who were singing in Jiangbin Park, 17 October 2022

In the past, this recording technique may have been perceived as capturing unnecessary noise. However, the purpose is to capture the ambient sounds in the park, as it is a popular gathering place for people to sing. Additionally, position three serves to document the specific location within the park, which is often overlooked, as mentioned from the perspective of the author as an archivist. This approach diverges from the conventional recording methods that solely focus on isolating the primary sound source.

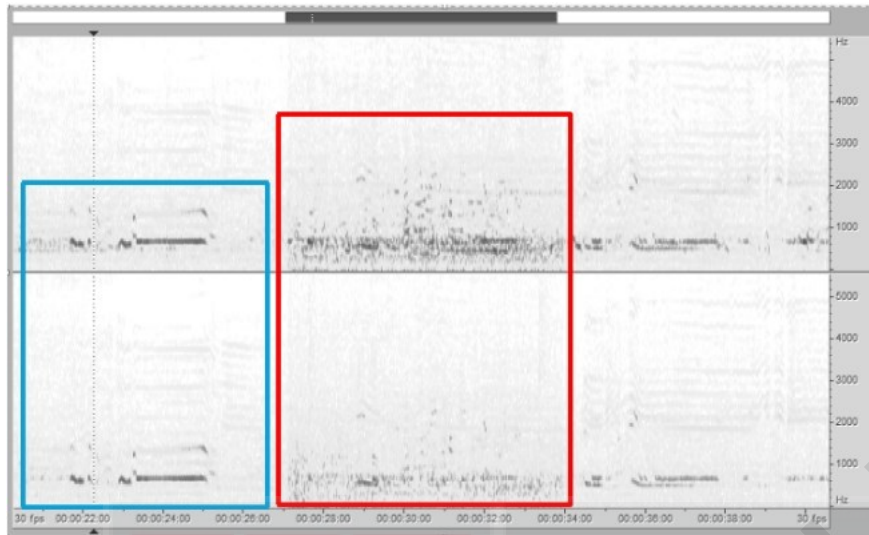


Figure 4.20 : Spectrogram of an ambient sound captured in the recording at position three

Recording device three, positioned to capture side sounds, picks up the sound from another singing group. Figure 4.20 displays a spectrogram that presents an A-B comparison of the recorded sound. The spectrogram highlights the main group sound event, represented by the darker sonic visualization within the blue box. Additionally, it shows the presence of other nearby singing groups, represented by the lighter sonic visualization within the red box.

4.3 Metadata of the Zhuang Song's Sound-Bank

Since Jack E. Myers put forward the concept of metadata in 1969, the application of metadata has gradually developed and been used in various industries. For example, the Dublin Core Metadata Initiative (DCMI) (1990) was developed at a informal workshop co-sponsored by the International Library Computer Center (OCLC) and the National Center for Supercomputing Applications (NCSA). Different industries will create metadata standards that meet their business needs. No matter which one,

they all describe the data of the data, increase trusted reading, improve practicality, and help users find relevant information resources more efficiently.

This study's metadata is primarily descriptive metadata, and the data sheet adopts the Audiovisual Research Collection for Performing Arts (ARCPA) model. ARCPA is an exploratory research project on the feasibility of small audiovisual archives carried out in 2011 by a group of researchers from the Faculty of Human Ecology at Universiti Putra Malaysia. It was officially established in 2013 (Musib, et al, 2014).

“ARCPA is operated by temporary users such as graduate students, visiting researchers, and staff in order to increase the physical safety of their recordings and teaching materials and to document the legal status of works jointly produced with musicians, performers, and colleagues in the field. Database entries are created and maintained by the main collectors themselves under the guidance of a voluntary archivist on duty.” (Musib, et al, 2014, p. 53)

On the basis of the experience of ARCPA, the experiment of Zhuang song contextual sound-banks is implemented, take position 1 of a Zhuang song recorded in Jiangbin Park, Pingguo County, Baise City, as an example. The audio QR code can be seen in Figure 4.21. The metadata are shown in table 4.4 and table 4.5.



Figure 4.21 : The recording of Jiangbin Park position 1
(Recorded by Lin Zhi)

Table 4.4 : ARCPA Database

CODE NUMBER	SOU RCE	DATE	PLACE
	ZOO M H1n	17 OCT 2021	Jiangbin Park, Pingguo County, Baise City, Guangxi
02974	LEN GTH	REC PERSON	LEGAL STATUS
	00:00 :59	Lin Zhi	ARCPA, MUSIC DEPT. FACULTY OF HUMAN ECOLOGY.UPM
TITLE		PERFORMER	
Jiangbin Park Position 1		Male: Ma Daofan, Pan Runxin; Female: Liu Guimian, Li Xiulin	
DOCUMENT LINK			FILE FORMAT
2023 PUIDSF, Article (Lin Zhi)			.WAV
RELATED ITEM	2023		
ARCHIVIING PERSON	REMARKS		
Lin Zhi	 		

Table 4.5 : The metadata model of Zhuang songs

ARCPA NUMBER	02866
CITY	Chongzuo
PLACE	Banjia, Baoxv, Daxin County
GPS	Lat: 22.684156, Lng: 106.885376
POSITION	One
AUDIO FILE/TYPES & DURATION	ZOOM0005.WAV
DATE	04/09/2021
TIME	8:42PM
EQUIPMENT	ZOOM H1N
DESCRIPTION & METHODS	Hand held stereo recording device pointing to the singer with coincident pair pattern
TYPE OF SONG	sei [θei ¹]
NAME OF THE SONG	Wo Tun You Shan You You Shui
AS CATEGORIES RIGHT	Solo
PHOTO OF THE SINGER	P0002
BASIC INFORMATION OF THE SINGER	Nong Meiqing (female, 58 years old)
DIALECT	The Southern dialect of Zhuang
tone OF THE DIALECT	to:n ⁵⁵ , mau ²¹ , khun ⁴⁴ , ma ⁴² , kwa ³³ , ta ⁵⁵
PHOTO OF THE SONG BOOK (IF ANY)	/
LYRICS (WITH INTERNATIONAL PHONETIC ALPHABET, ZHUANG WORDS AND THE TRANSLATION)	ɬu:ŋ ¹ ho ² wi:t ⁸ ma ² wi:t ⁸ ?dai ¹ kwa ⁵ <i>swngy hof vied maz vied ndae gvaq</i> Life is getting better

Table 4.5 : Continued

	pi⁶ no:ŋ⁴ la:i¹ kun² a⁰ <i>bih nongx lai gwnz ar</i> My dear friend ka:u¹ hiŋ⁵ ɕu:ŋ² li² lu:n⁴ li¹ wa⁶ <i>gau hingq cwengz siz luenx si vah</i> Let's sing together hun¹ hi³ hun¹ juŋ² la:i¹ lo⁶ a⁰ (ka²) <i>hun hij hun yungz lai loh ar (gaz)</i> It will make us happy ʔba:n³ lau² mi² ɕa¹ ɕai² mi² ta⁶ <i>mbanj saeuz miz ca caez miz dah</i> Our village lies between mountains and rivers pi⁶ no:ŋ⁴ la:i¹ kun² a⁰ <i>bih nongx lai gwnz ar</i> My dear friend ta⁶ nam⁴ ɕu:ŋ⁴ pet⁷ jau⁶ ɕu:ŋ⁴ tea¹ <i>dah naemx cwengx bet yaeuh cwengx</i> za There are plenty of supplies here ʔba:n³ lau² ʔdai¹ ju⁵ la:i¹ lo⁶ a⁰ (ka²) <i>mbanj saeuz ndae yuq lai loh ar (gaz)</i> What a happy life
--	--

4.4 The Words Used in the Lyrics

The language is followed by the production of writing. Different ethnic writings have different times. Some are produced in early times, some are produced later, and many ethnic groups do not use any writing. In the long-term struggle of life and production, it is a language created and continuously developed by using the six characters of Chinese characters. A variety of character creation methods is the following: Pictograms, indications, pictophones, knowledge transfer, tonality transfer, and borrowings. Among them the pictogram, indication, knowledge transfer, and pictophone are mainly “character creation metho,” and tonality transfer and borrowings are “character-using-methods.” “Fang Kuai Zhuang Words” use the

radicals of Chinese characters to recombine them into a common method to organize Zhuang characters. It is also called “Gu Zhuang Zi” and “Tu Su Zi” (Bauer, 2000: 225).

Zhuang people called it “*saw ndip* [θaw¹ dip⁷].” “*Saw*” means character, “*ndip*” means unfamiliar or uncommon, and “*saw ndip*” means a character that is uncommon to Chinese characters (Figure 4.22).



Figure 4.22 : Scheme of word order and elements in Zhuang
(Scheme by Lin Zhi, 27 September 2021.)

Qin Yaoting wrote in the preface for Huang Yongcha’s (1983) book that the history of ancient Zhuang characters was first recorded in Fan Chengda’s “Guihai Yuhengzhi” of the Song Dynasty, but it was not officially recognized by the dominant class at that time, so this kind of character was not uniformly used by the Zhuang group, and no unified norms were formulated, and it was only used in the class of the laboring people to record the folk songs, legends, and history. In September 2023, the author had an opportunity to invite Huang Guoguan, an inheritor of the Guangxi Zhuang Autonomous Region’s intangible cultural heritage of ancient Zhuang characters from Pingguo City, to travel with the author to Napo County, Baise City (Figure 4.23).



Figure 4.23 : Huang Guoguan demonstrated to Lin Zhi how to type with the ancient Zhuang character input system
(Photo by Lin Zhi, 10 September 2023.)

The author met another singer Luo Jingchao, an inheritor of the national intangible cultural heritage of the Napo Zhuang Songs. Although Pingguo County and Napo County both administratively belong to the territory of Baise City, the Zhuang songs of the two places are completely different in terms of melody, singing form and Zhuang dialect. Huang Guoguan uses the northern dialect of Zhuang, sings Zhuang songs with two voices and needs to collaborate with another male singer. Luo Jingchao uses the southern dialect of Zhuang and sings songs with a single voice. What is interesting is that during the conversation between the two singers and scholars of ancient Zhuang characters, they transcribed the same word in ancient Zhuang characters, but their writing styles were completely different (Figure 4.24). The three columns of text shown in the picture on the right below were written by the two singers on the spot, the middle column from top to bottom are the Chinese characters “去,吃,水,米,有” (Go, Eat, Water, Rice, Have), on the left side is Luo Jingchao's writing, and on the right side is Huang Guoguan's writing.



Figure 4.24 : Huang Guoguan and Luo Jingchao are writing ancient Zhuang characters

(Photo by Lin Zhi, 12 September 2023.)

It confirms that the ancient Zhuang characters mentioned above have not been officially certified and implemented, and thus no unified writing standard has been established. Although to this day, it is still circulated among some Zhuang people, as this study observed. But it is not a system, and it cannot be understood and used by the entire Zhuang people or even other ethnic groups. In the 1950s, a pinyin Zhuangzi was created by linguists to provide a written form for all expressions. Its initial use was approved by the State Council of China in 1957 for the growing area (Wei, 2012).

There are some pages of published local Zhuang songs books that the researcher have collected in Longlin County of Baise City, Shangsi County of Fangchenggang City, and Daxin County of Chongzuo City (Figure 4.25).

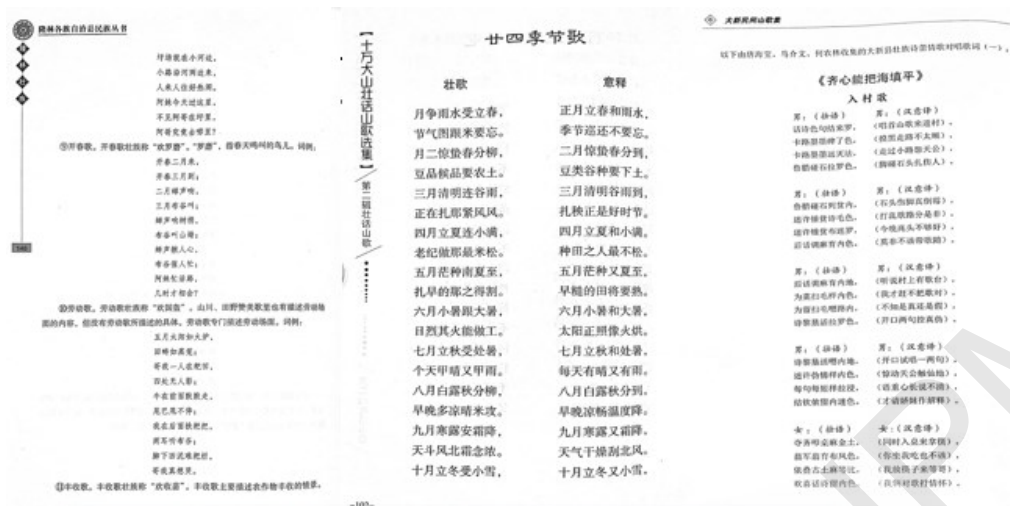


Figure 4.25 : Three pages of local Zhuang songs books published in the three different destinations Longlin County of Baise City, Shangsi County of Fangchenggang City, and Daxin County of Chongzuo City (Desheng, 2013; Jiang Chong & Mo Jinmei, 2019; Nong Dongmei, 2014). There are texts written mostly using Zhuang pictophones to make it easy to follow based on the joint use of Chinese characters as taught at schools

The songs collected so far only record lyrics, and no musical melodies or musical song structures (Huang, 2013: 148; Jiang & Mo, 2019: 102; Nong, 2014: 20). For Zhuang singers, some aspects of lyrics are more important than the melody.

4.5 Ornamental Syllables

In the current singing practice of Zhuang songs, the singers often use a lot of ornamental syllables, including single syllables or phrases or clauses at the beginning or in the middle of a phrase. These single syllables, possibly called “vocables (Widman, 2019: xiv)”¹⁷ or “auxiliary syllables (Jähnichen, 2014: 184),” such as interjection or onomatopoeia, are not written in the text of the lyrics. In addition, these phrases or clauses, both content words and function words, appear at the beginning

¹⁷ The song lyrics were actually produced by the singer during the performance, interspersed before and after the text lyrics. The term VOCABLE is used in this article.

and can be called “stock phrase (Widman, 2019: 90).”¹⁸ In general, these vocables are rarely written in most songbooks, which doesn’t mean that they have no meaning for the song.

The vocables are a special component of the lyrics in which the expressive meaning of music overrides the expressive literal meaning of words. It was already a very long time ago that ethnomusicologists, for example Feld (1984: 13), complained about the text obsession in songs and in their own writings. Charles Seeger (1977: 7) emphasizes that he felt that speech about music ultimately valued event over process, ..., and static over dynamic understanding. There are important and flexible text words and particles that are absent from poems or formal lyrics in most song collections. These elements are not yet well studied although there is a need for it. Zhu Tengjiao (2020: 52) divides the vocables into the following categories: exclamations with non-lexical meanings, vocables with appellation, vocables with onomatopoeia, and vocables or stock phrases with specific meanings. He argues that the vocables and singing tunes in Zhuang songs can only reveal their significance in duet singing. Singers must master the local cultural rules for using liner notes and cadences to accurately understand the meaning of the sung words in the process of duet singing. Zhu Zhanmei and Pan Linzi (2023: 92, 93) take the Zhuang folk songs in “The Guangxi Section of the Collection of Chinese Folk Songs” as their research object and classify the vocables appearing in these folk songs into the three major categories of single vocable, multiple vocables, and whole-paragraph vocables. Singers use vocables according to their emotional

¹⁸ It often accompanies a stock phrase made up of two lexical words and two vocables.

expression and the song's needs. The singer adds vocables to supplement the deficiencies of the text lyrics in the actual singing process (Xu, 2018: 30).

In a less old study of Feld and Fox (1994: 1) was again stated that the relationship between musical and linguistic (Trask, 2007) approaches to culture would be crucial to a future of more rigorously contextualized ethnographic descriptions of musical behaviour. Both scholars referred to Norma McLeod (1974) who spoke about this problem already 20 years earlier.

Vocables, in my opinion, unlike the lyrics, are limited in their independent expressive meaning if without the song. It must be combined within a musical expression in order to fully develop their meaning. The author shows that the vocables appear in relatively fixed positions through the recordings. However, different singers have their ideas about the design of the vocables in their singing practice, like adding or subtracting a syllable. In addition, as the vocables have their own phonological rules during the singing process, this tends to result in actual variants that differ slightly in their acoustic effect. The role played by the diction of vocables, both lexical syllables and vocables also differ. Based on collected audio recordings and lyrics, this thesis analyses the structure, sound variation and role of vocables or stock phrases in Zhuang songs.

4.5.1 The Structure of the Vocables

The word structure of Zhuang songs exists in a rather solid way, with “*hot* (spelled in Standard Zhuang, pronounced as [ho:tʰ] in Northern Zhuang and [kʰo:tʰ] in Southern

Zhuang)”¹⁹ being the basic unit of a complete verse of the lyrics, and each *hot* consists of at least two lines, with as few as one or as many as a hundred. In addition, to satisfy the rhyming rules of the Zhuang dialect of the region, the singers also embed language elements or clauses within the fixed text structure in their singing practice. Taken as a whole, there are both mainly fixed language elements in which the combination of initials and compound vowels are intact, and the language elements that sound different in specific speech streams, but currently only the initials are changed and the vowel in the syllable remains largely fixed as it seems.

In the sentence structure of Zhuang songs, language elements have a relatively fixed position. Take Zhuang songs with improvised lyrics from different regions as examples. Firstly, the Zhuang song “There is only you in my eyes”²⁰ which belongs to the *sei na/sei ya gyaz*²¹. The type of *sei ya gyaz* is a double-voice song characterized by starting with a single tone each time (Figure 4.26). “There is only you in my eyes” is from the Jiuzhou town in the Jingxi city (a county-level city) in Baise Prefecture (Zhang & Zhong, 2021).

¹⁹ Note that in Southern Zhuang (or Central Tai), this term is with an aspirated stop initial consonant [k^h] instead of [h]. In both Northern Zhuang and Southern Zhuang, the high register tone category of a checked syllable with a long vowel is generally tone 9 instead of tone 7 in the conventional tone marking style, even though tones 7 and 9 are merged into the same tone value in some dialects.

²⁰ ARCPA No. 3080

²¹ *sei na* means poems (songs) of the paddy field region. *sei ya gya* is what singer Zhang Guiying calls.

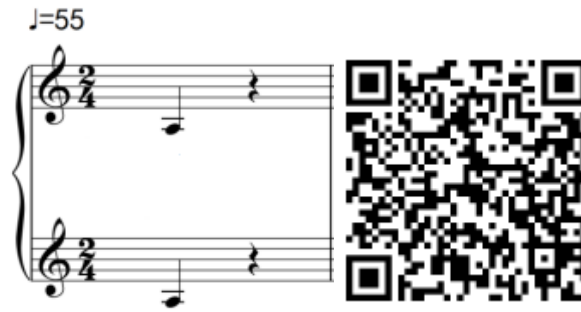


Figure 4.26 : The score of the beginning tone and the audio of “There is only you in my eyes” QR code

Table 4.6 : Two *hot* of in Jingxi sei “There is only you in my eyes”

<i>hot</i>	Zhuang words ²²	IPA	Translation ²³
1	byag boh byag meh zaengz gyaenx heiq,	pja:k ⁸ po ⁶ pja:k ⁸ me ⁶ tsaŋ ² kjan ⁴ hei ⁵ ,	I’ve never been so upset about leaving my parents
	byag zwngz byag eiq naemx ta lae.	pja:k ⁸ tsə:ŋ ² pja:k ⁸ ʔei ⁵ nam ⁴ tha ¹ lai ¹ .	But leaving my lover brings tears to my eyes.
2	byag bae daengz naemx ta lae langq,	pja:k ⁸ pai ¹ taŋ ² nam ⁴ tha ¹ lai ¹ la:ŋ ⁵ ,	My eyes were full of tears after I left you,
	bak gwnz zaengz dangj daej niq gwnz.	pa:k ⁷ kən ² tsaŋ ² ta:ŋ ² 3 tai ³ ni ⁶ kən ² .	Even if I were given a hundred men, they couldn’t replace you.

Combining the lyrics of the two *hot* above with the audio recording of the song, the vocables appear in the following positions:

hot [k^ho:t⁹] 1:

(ei) byag boh (ei) byag meh (a) zaengz gyanx heiq,

(ei) byag zwngz byag eiq (w) naemx ta (a) lae.

hot [k^ho:t⁹] 2:

(ei) byag bae (ei) daengz naemx (a) ta lae langj,

²² The Zhuang lyrics were transcribed by Liu Jingliu, a scholar of the Zhuang languages on 11th December, 2022

²³ All English translations have been done by the author herself.

(ei) byag bae zaengz dangj (w) deij niq (a) gwnz.

According to the whole lyrics, the placement of the language elements is identical in both *hot*. However, the final use of the vocables *-a* in the first *hot*, which rhymes with the same as the preceding content words *ta*, is more like a singer's return to rhyme for the content words that precede it when singing.

Another Zhuang song “Yingke Ge”²⁴ (Figure 4.27) which belongs to the type *sei* (*sei loiz* [hi¹ lo:i²]), from Daxin County, Chongzuo City (Xu & Zhao, 2021) is shown here:



Figure 4.27 : The audio of “Yingke Ge” QR code

²⁴ ARCPA No. 3081

Table 4.7 : Two *hot* in the song of *sei loiz* “Yingke Ge”

<i>hot</i>	Zhuang words	IPA	Translation
1	haemh vaz caengz nonz pi ta tiuq,	Ham ⁶ va ² ɛaŋ ² non ² phi ¹ tha ¹ thi ⁵ ,	Last night when I went to bed I felt my eyelids fluttering,
	vaenz naex miz hek maz laeuz liuh,	wan ² nai ⁴ mi ² khe:k ⁷ ma ² lau ² li:u ⁶ ,	We had guests over today,
	saem doengz hoij ciuz lai loq swz.	lam ¹ toŋ ² ho:i ³ ɛi:u ² la:i ¹ lo ⁵ lə ² .	The emotions were like a tidal wave.
2	lwenz lwenz douz kae bak du naj,	lu:n ² lu:n ² tou ⁴ khai ¹ pa:k ⁷ tu ¹ na ³ ,	Everyone opens the doors of their homes,
	yeh cingh ziuq daih maz gingq caz,	je ⁶ ɛiŋ ⁶ teiu ¹ ta:i ⁶ ma ² kiŋ ² ɛa ² ,	The host offers tea to the guest,
	gwnz gwnz naj ho lai loq swz.	kun ² kun ² na ³ ho ¹ la:i ¹ lo ⁵ lə ² .	Everyone welcomes guests with a smile.

Combining the lyrics and the recording of the singing practice, the language elements appear in the following positions:

hot [ho:t⁷] 1:

(ei) haemh vaz (la) caengz (a) nonz (e) piq ta (a) tiuq (la),
vaenz naej (la) miz (a) hek (ei) maz laeuz (a) liuh (la),
saem doengz (la) hoih ciuz lai loq swh (oi oi).

hot [ho:t⁷] 2:

(ei) lwenz lwenz (la) douz (a) kae (e) bak du (a) naj (la),
yeh cingh (la) ziuq (va) daih (ei) maz gingq (nga) caz (la),
gwnz gwnz (la) naj ho lai loq swh (oi oi).

The above two songs were recorded in different localities, but they both belong to the genre *sei*, which is characterized by a fixed *hot* structure, with three line forming a *hot*, in which with forming the first two lines both contain seven syllables, and the third line consists of five syllables of lyrics plus two syllables of structural language

elements (*loq swz*, which must be read even in lyrics reciting) The last syllable of each *hot* (i.e. the last syllable of the third line of each *hot*) must rhyme with the last syllable of another *hot*, in keeping with the metrical characteristics of *sei*. In addition, there are *hot*-internal rhymes, being the first two lines rhyming each other at the last syllables, and these two syllables rhyming to the non-final syllables of the third line, as in *tuiq – liuh – ciuz* in *hot 1* and *naj – caz – naj* in *hot 2*. Such rhyming style is called ‘foot-waist’ rhyme (脚腰韵) in the Zhuang song research circles in the Chinese literature (Liao, 2019: 54). The ‘foot-waist’ rhyme is the most common in Zhuang songs, most Zhuang songs have a flexible rhyming scheme, and singers have more freedom to create lyrics within a certain metrical framework (Zhu, 2022: 43).

4.5.2 The Stationarity of Basic Language Particles

Among the types of Zhuang songs collected during 2021 and sometime earlier in the western region of Guangxi, some fixed language elements do not change, most of which are either lexical syllables or a combination of lexical syllables and vocables of the primary text, which is called “basic language elements.” In summarizing the language elements of *fwen naz haij*, Zhu Tengjiao (2020: 56) pointed out that they all appear in the critical positions at the beginning and end of the sentence and have a structure that provides a relatively stable performance framework for the singer’s singing.

These basic language elements often have an impact on the melody in which they are found, and are most directly reflected in the beginning and at the end of phrases of the different types of Zhuang songs. For example, the Zhuang song ‘*eir yor yiux eir yiux* [*ei⁰ yo⁰ jiu⁰ ei⁰ jiu⁰*],’ and ‘*dien loz dien loz naz* [*te:n⁰ lo⁰ te:n⁰ lo⁰ na⁰*],’ which is in the

Longlin County, Baise Prefecture; ‘*luenx yang* [luen⁴ ja:ŋ¹]’ in Napo County, Baise Prefecture; ‘*fwen Noengz* [fu:n¹ noŋ²]’ in Tianlin County, Baise Prefecture; ‘*fwen sw goh* [fu:n³³ ʔu³³ ko³¹],’ ‘*fwen naz haij* [fu:n¹ na² ha:i³],’ ‘*fwen dinj* [fu:n¹ tin³],’ ‘*fwen raez* [fu:n¹ .ai²]’ in Pingguo County, Baise Prefecture; ‘*sei loiz*’ in Daxin County, Chongzuo Prefecture. These different types of Zhuang songs from different regions have their own fixed lyric vocables, which appear regularly in the singing practice of the Zhuang, and have formed a fixed pattern with the text lyrics and song melodies.

In addition to the beginning or end, there are also some basic language elements interspersed in the lyrics. For example, in the ‘*luenx yang* [luen⁴ ja:ŋ¹]’ (Figure 4.28), the male singer will always have *nangz* [na:ŋ²] ‘young lady’ or *nuengx* [no:ŋ⁴] ‘young girl’ (literally ‘younger sister/brother’) in the language elements, and the female singer will always use *langz* [la:ŋ²] ‘young gentleman’ or *beix* [pi⁶] ‘senior fellow’ (literally ‘elder brother/sister’).



Figure 4.28 : One of the vocables often used at the end of the type *luenx yang*

This study argues that these agreed-upon language elements are related to the expressions that the singers want to convey and are the result of a long history of accumulation, facilitating the singing, teaching, and interaction of the singers within

the singing system of the region, and have become one of the essential components of the musical and aesthetic ecology of the Zhuang people in their area. This study will analyze the role in the following section.

4.5.3 The Positional Instability of Some Ornamental Syllables

Some language elements are not required on any specific syllable and occur at the discretion of the singer (Widman, 2019: 89). In improvisation, the singer has to follow the format and rhythm of the lyrics, but also has to make up and sing a response or reminder to the partner singer in a very short time, including forgetting the words or one of them has to match the partner and give timely balance when the partner hesitates, which tests the singer's singing level and clinical performance to the extreme. In the *yaej* [ʔjai⁴], which is one branch of the Zhuang, singers are free to use the language elements in the middle of the song according to the specific situation in addition to the language elements at the beginning and the end of the song, it enables the singer to show more singing skills and also to get time for the singers to recall the lyrics, thus ensuring the overall coherence of the song (Zhu, 2020: 54). So, the structural position remains relatively fixed in the same or similar Zhuang songs, the number of vocables appearing in the same position increase or decrease to some extent.

Taking an example of a Zhuang antiphonal song (excerpts from the second and third *hot* of the male vocal part) “Tanqing Ge”²⁵ belonging to ‘*luenx yang* [luen⁴ ja:ŋ¹],’ recorded in Napo County, Baise Prefecture (Liang Youqiag & Nong Feiqion, 2017).



Figure 4.29 : The audio of “Tanqing Ge” QR code (left is the second *hot*, and right is the third *hot* of the male vocal part)

Table 4.8 : Comparison of Zhuang words used in the song “Tanqing Ge”

<i>hot</i> [ho:t ⁷]	Zhuang words	IPA	Translation
2	moek iek ndwn byaek soemj miq roengz,	Mək ⁷ a ⁰ ʔja:k ⁹ le ⁰ ʔdən ³ phjak ⁷ le ⁰ θam ³ mɔ ⁰ ei ⁰ mi ⁵ ja ⁰ lɔŋ ² ,	I feel hungry but I can't even swallow pickled mustard greens,
	nien cingz ndwn noh roengz nyaengz genx.	Le ⁰ ni:n ¹ tsɪŋ ² a ⁰ ʔdən ³ nə ⁴ lei ⁰ lɔŋ ² ɲaŋ ² le ⁰ ke: n ⁴ ne ⁰ ei ⁰ no:ŋ ⁴ a ⁰ no ⁰ .	I miss you so much that I felt like choking my stomach even after I ate the meat.
3	roeg gut siengj hwnj dat gem lingz,	nɔ:k ⁸ kwat ⁷ θu:ŋ ³ khən ³ ta:t ⁹ ke:m ¹ liŋ ² ,	The golden pheasant wants to climb up the cliff after the monkey,
	gaem saz mbouj miz rengz gangj vangx.	kam ¹ θa ² ʔbo ⁵ mi ² re:ŋ ² ka:ŋ ³ wa:ŋ ⁴ .	Unfortunately, I do not even have the strength to carry a basket.

²⁵ ARCPA No. 3082

Language elements appear in the following positions.

Excerpts from the *hot* 2 and 3 of the male vocal part:

(ne no o hui lo nga le no) moek (a) iek (le) ndwn byaek (le) soemj (mo ei) miq (ya)

roengz,

(le) nien cingz (nga) ndwn noh (lei) lungz nyaengz (le) genx (lei nuengx nga no).

(m no o hui nuengx nga le no) roeg (nga) gut (lei) siengj hwnj (de) dat (lei) gem

(ma) lingz,

(le) gaem (ndo) saz (le) mbouj miz (lei) rengz gangj (le) vangx (no ui yi nuengx nga no).

Figure 4.30 displays three staves of musical notation for a male vocal part, with lyrics in a non-Latin script below each staff. Red brackets highlight specific phrases in the lyrics.

Staff 21:
 Lyrics: ηa^0 le^0 no^0) $m\acute{o}k^7$ (a^0) $?ja:k^9$ (le^0) $?d\acute{e}n^1phjak^7$ (le^0) θom^3 ($m\acute{o}^0$ ei^0) mi^5 (ja^0) lon^2 ,
 nga le no) moek (a) iek (le) ndwn byaek (le) soemj (mo ei) miq (ya) roengz.

Staff 25:
 Lyrics: (li^0) $ne:n^1$ $tsin^2$ (ηa^0) $?d\acute{e}n^1n\acute{e}^4$ (lei^0) lun^2 ηan^2 (le^0) $ke:n^4$ (lei^0)
 (li) nien cingz (nga) ndwn noh (lei) lungz nyaengz (le) genx (lei)

Staff 27:
 Lyrics: $no:n^4$ ηa^0 no^0 . (le^0) $?d\acute{e}:n^1$ (nou^0) $la:p^{10}$ ma^2 (lei^0) hai^5
 nuengx nga no). (le) ndwn (nou) lab ma (lei) haeq

Figure 4.30 : Music notation of *hot* 2

These two *hots* have basically the same structure. One can find that the language elements used and the number of vocables used in the line at the beginning and the end of the *hot* differ. The author found that the line at the beginning is not only affected by the change of the articulation part, which leads to an increase or decrease in the number of articulations, but also by the random addition of interjections and onomatopoeia when the singer sings. According to the audio recording, the end of *hot*

3, the male singer has three movements in the articulatory dynamics, which gives the impression of ‘*no ui yi*’. The singer also adds ‘*nuengx*’, a stock phrase commonly used in *luenx yang* [luen⁴ ja:ŋ¹]. Then, the first text lyrics in the second sentence of *hot 3* are followed by an additional syllable than in *hot 2* at the same position. The change in the number of the vocables affects the length and development of the melody, that can continue.

4.5.4 Sound Changes of the Ornamental Syllables

Based on an examination of the range of living music, and not just an analysis of static musical texts, combined with audio the author finds that the phenomenon of phonetic assimilation occurs extensively in the singing practice of the Zhuang, both in language elements and primary text lyrics, in almost each Zhuang song. A phonetic assimilation is a syncretic plane of phoneme change that occurs in dynamic, concrete discourse. Because phonemes are always in an uninterrupted flow in discourse, in the singing practice, they form chains of sounds to express certain meanings, so that several phonemes in close proximity to each other tend to interact and adapt to each other, so that various prosodic changes occur (Lin & Wang, 2013: 149). In the Central Taic language Yang-Nong (Dejing vernacular), if the interjections have no initial consonant, they must be pronounced in conjunction with the preceding syllable’s coda, whether consonant or vowel, such as the interrogative particle [a⁴⁵] becoming [na⁴⁵] if its preceding syllable is [ŋan³¹] ‘money’ which has the coda [-n] (Liao, 2010: 103). This is why the singer, consciously or unconsciously, makes two phonemes that are different, not close to each other, but adjacent to each other, change and become

identical or similar, mainly at the connection of two syllables, mostly consonants as Dai Qingxia (2006: 73) mentioned.

The author uses the examples of the song (excerpt) “Langhua Ge”²⁶ (*luenx yang* [luen⁴ ja:ŋ¹]) (Luo Jingchao & Pan Xiucan, 2017) from Napo County and “Where friends come from (*eir yor yiux eir yiux*)” (excerpt)²⁷ from Longlin County to elaboration.



Figure 4.31 : The audio of “Langhua Ge” QR code

Excerpt of “Langhua Ge”:

Zhuang: (le) ngvaih (li) go (le) ndok (nga le) daih (li) haj (lo langz nga nw
wi no)

IPA: (le⁰) ŋwa:i⁶ (li⁰) ko¹ (le⁰) ɲdo:k⁹ (ŋa⁰ le⁰) ta:i⁶ (li⁰) ha³ (lɔ⁰ la:ŋ² ŋa⁰
nə⁰ əi⁰ nɔ⁰)

Translation: Swinging the fifth flower.

²⁶ ARCPA No. 3083

²⁷ ARCPA No. 3084

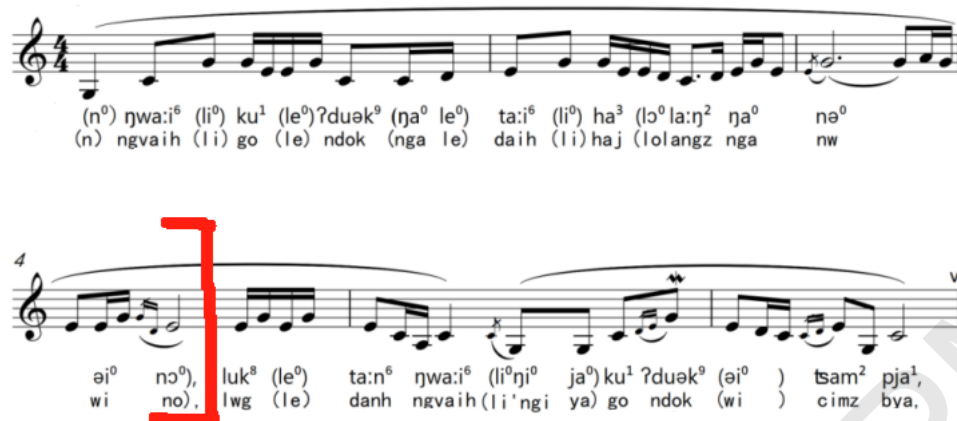


Figure 4.32 : Music notation of the excerpt of “Langhua Ge”

The coda of *ndo* ‘flower’ is a velar plosive -k [k], n causing the following language element a[a] to produce an initial consonant [k], but this [k] has been strengthened in singing to become a nasal stop [ŋ], which is with the same POA (place of articulation) with [k]. This causes the language element -a [a] to become phonetically -nga [ŋa], although phonologically it should be a simple -a [a] without an onset.

Furthermore, the coda of the word *langz* ‘young gentleman’ is a velar nasal stop -ng [ŋ], cause the following language element -a [a] to become phonetically -nga [ŋa], by producing an initial consonant which is directly assimilated by the coda of the preceding syllable, -ng [ŋ].

Excerpt of “Where friends come from”:

Zhuang: scwz nix cingj mwngz gwn laeuj gonq (nar)

IPA: ɕw² ni⁴ ɕiŋ³ muŋ² kuŋ¹ lau³ ko:n⁵ (na⁰)

Translation: Have a drink, please.



Figure 4.33 : The audio of “Where friends come from” QR code

Similarly, the nucleus of the language element *nar* is actually the single vowel -a [a], the initial consonant n- in *nar* being derived from the coda -n of the preceding syllable *gonq* [ko:n⁵] ‘first’. This is a phenomenon of phonetic assimilation. Actually, the mechanism of such liaison is exactly the same as that described by Liao Hanbo (2010: 103-104) for those utterance particles without initial consonants in Debao Zhuang.

The existence of language is dynamic and much more variable than that of words (Trask, 2007). There are numerous examples of phonetic assimilation in Zhuang songs, where such occurrences of sound changes in specific speech activities happen in order to regulate the harmony between syllables, making speech smoother and more convenient. By the same token, in the specific case of singing activities, it also occurs in order to avoid the poor flow and to make the singing to proceed smoothly. Therefore, phonological assimilation is both a variation of language in speech activity and also an integral part of the aesthetic mechanism of music in singing. It is also clear from this fact, that the initial consonants of vocables are not absolutely fixed, except for some of the basic vocables, which means that the most central part of a syllable is the compound vowel, not the initial consonant.

4.5.5 The Role of Ornamental Syllables

The analysis of the structure and sound changes of the language element shows that they are an integral part of the singing practice of Zhuang songs, and that the different ways in which they are currently used shape a relatively stable structure, building a fixed structure for different Zhuang songs.

The content words and function words appear to vary in degrees in the structure of each different type of Zhuang song, and the specific position and format of their use are relatively fixed. Lexical syllables are less frequent and more formulaic in their use. The function words core of the syllables they use are vowels, the number of which is relatively limited. The content words and function words also play different roles.

Represented by appellations, the content words are often seen in the beginning of Zhuang songs in many areas, such as *nuengx* [no:ŋ⁴] ‘young girl’, *langz* [la:ŋ²] ‘young gentleman’, *beix* [pi⁶] ‘senior fellow’ which often appear in the beginning of *luenx yang* [luen⁴ ja:ŋ¹]; *hoc jis* [ho³ tɛi⁵] ‘buddy’ which is found in *eir yor yiux eir yiux* [ei⁰ yo⁰ jiu⁰ ei⁰ jiu⁰] ‘hello, my fellow’. In my observation, combining with previous studies such as *youx* [ju⁴] ‘friend’, such appellations play the following roles:

- They directly mark the start of the singing activity. It can be seen as a reminder to the partner and an announcement of the start of the question-answer singing.
- It's a friendly and polite greeting to the partner, an expression of the specific affection of the singers. The choice of the vocables also can reflect the degree of affection between the singers. These appellations reflect the change in the

relationship between men and women in the antiphonal singing (Zhu, 2020: 52). For example, the words *nax* 'uncle and *go* 'fellow' (literally 'elder brother') appear in the ornamental phrase at the beginning of a song.

- It's an introduction by the singer to their partner of the opposing side in antiphonal singing.
- It indicates the meaning of a transition, as in the case of a change of scene or a change of partner during the practice of the question-answer singing, to sing some fixed transitional stock phrase.
- It's also to mark the end of the song.

Language element that have no lexical meaning, such as interjections and onomatopoeia, also play an important role in the following ways:

- Zhuang singers use of a number of vocables associated with text lyrics to allow the development of the musical phrase to a specific length. In the fwen leu of Pingguo County, the singers often use vocables with cohesive functions to make the phrase structure more complete (Xu, 2018: 31).
- It may increase the melodic rhythmic types. The pronunciation of the function words being derived from the lyrics, are indirectly leading to the formation of different rhythmic types such as soothing and long, cheerful and bouncy. The vocables in Zhuang songs of Bama County and Nandan County in northwest Guangxi also have this function (Zhu, 2020: 55).

The Zhuang languages generally have eight to ten tones, including six tones on smooth syllables (ending on a non-stop coda) and two to four tones on checked syllables (ending on a stop coda, either -p, -t, or -k) (Wei & Qin, 2008: 11). Checked syllable tones are on a syllable with airflow being completely stopped in the mouth, and if the last syllable is a checked syllable, the melody would be short, such as

nok “bird”. In such a situation, a vocable or an ornamental phrase is usually given to end the melodic phrase.

Language particles play a bridging role within the phrase, as the use of those language elements can weaken the stop endings of the preceding lyrics ending in a checked syllable due to the impact of sound progressions, making the singing process smoother and more harmonious. They may play a role as an inhaling possibility when the singers sing, giving the singers space to change their breath.

In addition, the language particles play a major role in naming the song. Zhuang singers will currently use the most commonly used language particles as the name of a song in that area, making it a name or alias for that type of Zhuang song, and thus ornamental syllables naming method has become an important source of song names. One example of this is the “*eir yor yiux eir yiux*” mentioned above.

CHAPTER 5

CONCLUSION

The concept of “preservation” often faces misinterpretations, as some mistakenly equate it with “copying” “proper storage.” or “database creation”. However, preservation entails a broader scope, involving actions such as conservation, restoration, migration of audiovisual materials to stable mediums like files in digitization, proper storage of these files, and their continuous maintenance. In the context of significant museums, the introduction of sound to audiences serves a profound purpose. It heightens awareness of spatial-temporal perception disparities and transforms the perception of Zhuang songs from static artifacts to dynamic expressions encompassing song history and spatial transformations.

Within the realm of Zhuang song preservation, the use of single-source recorded materials has historically imposed constraints, confining them within predetermined and personally biased contextual boundaries. This limitation hindered users from fully immersing themselves in the encompassing sensory experience of the surrounding soundscape. In conventional studio recording practices, the sound recording process involves often isolating the singer’s voice and creating individualized tracks within a multitrack recording. However, this approach restricts the capturing of a complete soundscape and disregards the contextual elements that play a vital role in the experience of Zhuang songs.

More audio field recordings still need to be made, which calls for a more comprehensive investigation. This gap is pronounced by the need for more focus on the numerous options that come with contextual sound preservation. The debate on

Zhuang song singing in Guangxi's numerous counties has highlighted the potential richness of using multiple perspectives when recording. The study has uncovered an innovative approach to auditory stimulating heritage preservation by strategically placing microphones to capture the musical performance and the spatial, social, and environmental components. This approach goes beyond the conventional boundaries of sound documentation, weaving together the intricate tapestry of the evolving landscape. The significance lies in recording music and encapsulating the holistic experience, giving future generations a choice when immersing themselves in the sonic essence of a moment in time. Embracing this diversity in recording methods is critical to bridging the existing gap and advancing the frontiers of audio field exploration.

In extending the discourse on audio field exploration, it becomes imperative to acknowledge the transformative potential of embracing diverse recording methods into one methodology. The implications of the findings reach beyond the immediate context of Zhuang song singing, resonating as a paradigm for broader applications in the field of preservation. The study supports a more holistic and nuanced understanding of heritage by advocating for incorporating spatial, social, and environmental dimensions in audio field recordings. This approach captures the significance of a specific community and serves as a template for safeguarding diverse auditory legacies globally. As we navigate the uncharted territories of audio field exploration, this study proves the unexplored potential within the complicated interaction of sound and context. The call for a more comprehensive investigation echoes beyond this specific study, urging researchers to broaden their horizons and

redefine the boundaries of audio preservation for a richer, more immersive exploration of a sonic heritage.



REFERENCES

- Bauer, Robert. (2000). The Chinese-based writing system of the Zhuang language. *Cahiers de linguistique - Asie orientale*, 29: 223-253.
- Bing, Qi. (2019). 探索假期开放机制，共享高校博物馆资源 [Explore mechanisms for public access during vacations to share university museum resources]. The Bei Jing News, A02. Available at: http://education.news.cn/2019-02/08/c_1210056006.htm (Retrieved 12 May 2022).
- Caplan, Priscilla. (2008). Preservation Metadata. Baca, Murtha. (Ed.), *Introduction to Metadata* Getty Research Institute, 3rd ed., pp. 131-142.
- China Statistics Press. (2021). Guangxi Statistical Yearbook 2021. Available at: <http://tjj.gxzf.gov.cn/tjsj/tjn/material/tjn20200415/2021/zk/indexch.htm>, last retrieved 20th October, 2021.
- Cao, Kun and Huang, Xiaoxian. (2017). 论壮语声调对壮族民歌旋律的影响 [On the influence of Zhuang vocal tones on the melody of Zhuang songs]. *Songs Bimonthly*, 1, pp.20-26.
- Cai, Xuemei. (2014). 当前档案信息化发展中面临的主要问题 [The Main Problems Faced in the Current Development of Archival Informatization]. *Proceedings of the 2014 Cross-Straits Archives and Microform Academic Exchange Conference*. China Taipei, pp. 28-32.
- Cai, Xuemei. (2011). 档案保护工作法规标准建设 [Regulatory standards for the preservation of archives]. *Proceedings of the 2011 Cross-Strait Archival and Microform Academic Exchange Conference*. Beijing, pp.26-30.
- Canazza, Sergio., Camurri, Antonio. & Fujinaga, Ichiro. (2010). Ethnic Music Audio Documents: From Preservation to Fruition. *Signal Processing*, 90(4), pp. 977–980. <https://doi.org/10.1016/j.sigpro.2009.12.001>, last retrieved 20th October, 2021.
- Chu, Zhuo. (2022). 广西民间音乐音像资源的有效价值与实践向度 [The Effective Value and Practical Orientation of Guangxi Folk Music Audiovisual Resources]. *People's Music*, 1178-81.
- Chu, Zhuo. (2019). 广西民族音乐博物馆音响档案典藏的措施与思考 [Current Undertakings and Thoughts Regarding Sound Archiving at the Guangxi Ethnic Music Museum]. Paper presented at the International Workshop Safeguarding Strategies of Sound Archives in the Pacific Region, Shanghai, China, 4-6 November, 2019.
- Chen, Liqin. (2011). 民俗视野中的广西那坡壮族民歌 [Guangxi Napo Zhuang Songs in Folklore Perspective]. *Guangxi Ethnic Studies*, 3, pp.83-88.

- Dang, Yuna. (2019). 口述史视野下的壮族民歌历史文化研究 [Research on the History and Culture of Zhuang Songs from the Perspective of Oral History]. *The Art of Singing*, 7, pp.36-41.
- Davies, William J. (2010). The acoustic environment, in Christopher J. Plack (ed.), *Oxford Handbook of Auditory Science: Hearing*, Oxford Library of Psychology. Available via: <https://doi.org/10.1093/oxfordhb/9780199233557.013.0016>, last retrieved 12th October 2023.
- Dai, Qingxia. (2006). *语言学基础教程 [Basic Tutorials in Linguistics]*. Beijing: The Commercial Press.
- Dai, Guanglu & He Zhengting (2005). *勐僚西尼故 [The General Introduction of the Culture of Zhuang People]*. Kunming: Yunnan Fine Arts Press.
- Derrida, J. (1997). *Of Grammatology*. Baltimore: The Johns Hopkins University Press.
- Diller, Anthony, Edmondson, Jerry, & Luo, Yongxian. (2004). The Tai-Kadai languages. *Routledge eBooks*. <https://doi.org/10.4324/9780203641873>
- "DCMI Specifications" (1990). Dublincore.org. Last retrieved 25th December 2022.
- Eleinen, O. A., Elrayies, G. M., & Hussein, R. (2016). Soundscape Approach for Analyzing and Evaluation Acoustic Environment in Urban Parks. *Port-Said Engineering Research Journal*, 20(2), pp.10–16.
- Edmondson, Ray. (2004). Audiovisual Archiving: Philosophy and Principles. In *UNESCO eBooks*. Available via: https://www.amarc.org/documents/manuals/Audio_Visual_Archiving_%20English.pdf, last retrieved 14 April 2023.
- Edmondson, Ray. (2013). Audiovisual Archiving: A Balancing Act. Available via: https://www.academia.edu/27168897/Audiovisual_archiving_a_balancing_act 1-3, last retrieved 19th August 2022).
- Feng, Lixia. (2018). 论壮族民歌译介之译者的语篇意识 [On the Translator's Discourse Awareness of Zhuang Songs Translation]. *Journal of Baise University*, 4: pp. 106-110.
- Feld, Steven. (1984). Communication, Music, and Speech about Music. *Yearbook for Traditional Music*, 16, 1–18. DOI /10.2307/768199
- Feld, Steven and Aaron A. Fox. (1994). Music and Language. *Annual Review of Anthropology*, 23, pp.25–53.
- Guangxi Zhuang Autonomous Region Bureau of Statistics (2018). The Series of Reports on Economic and Social Development Achievements of the 60th Anniversary of the Establishment of the Guangxi Zhuang Autonomous Region.

Available via: <http://tjj.gxzf.gov.cn/tjsj/tjgb/qqgb/t2381649.shtml> (Retrieved 12 May 2022).

- Huang, Ling. (2016). 城市化进程中民族文化的传承与发展——以广西壮族民歌为例 [Inheritance and Development of Ethnic Culture in the Process of Urbanization: Taking Guangxi Zhuang Songs as an Example]. *Heilongjiang National Series*, 3, pp.132-136.
- Huang, Guoguan & Lin Zhi. (2023). Interview at Hotel City Comfort Inn, Napo County, 11 September. Personal collection.
- He, Yulan & Lin Zhi. (2021). Interview about Zhuang songs at Wan Jishan Park, Tianlin county, 23 September. Personal collection.
- Huang, Ge. (1990). *Guili De Zhuangge* [瑰丽的壮歌]. Nanning: Guangxi Nationalities Publishing House.
- Jin, Meng. (2018). 壮族嘹歌的文化溯源 [The Cultural Traceability of a Type of Zhuang *raeuz* songs]. *National Music*, 2, pp.35-37.
- Jiang, Chong & Mo Jinmei, eds. (2019). *十万大山壮话山歌选集* [Anthology of Zhuang Dialect and Songs of Shi Wan Mountains]. Shangsi: Shangsi County Federation of Literary and Art Circles.
- Jähnichen, Gisa. (2023). Audiovisual Materials for Research: The Experience of Witnessing Others. *Huangzhong (Journal of Wuhan Conservatory of Music)*, 3, pp.40-45, 119.
- Jähnichen, Gisa. (2014). Melodic Relativisation of Speech Tones in Classical Vietnamese Singing: The Case of Many Voices. *Jahrbuch des Phonogrammarchivs der Österreichischen Akademie der Wissenschaften*, 4, pp.180–194.
- Jähnichen, Gisa. (2018). Repatriation of Intangible Heritage from the Perspective of Maintaining Cultural Resources. *AEMR-EJ*, 1, pp.57-62.
- Jähnichen, Gisa. (2015). Audiovisual Knowledge Management and the Fear to Lose Control. *IASA Journal*, 45, pp.54-58.
- Krause, Bernie. (1987). Bioacoustics, habitat ambience in ecological balance. *Whole Earth Review*, 57: 14-18.
- Kevin Bradley ed. (2009). Guidelines on the Production and Preservation of Digital Audio Objects (= Standards, Recommended Practices and Strategies, IASA-TC 04). IASA Technical Committee. Available via: www.iasa-web.org/tc04/audio-preservation, last retrieved 28 April 2023.
- Kroon, R. W., Drewry R., Leigh A., & McConnachie S. (2015). Content identification for Audiovisual Archives. *IASA Journal*, 45, pp.20-30.

- Lin, Zhi. (2020). Ways of Singing in Napo County (Guangxi Zhuang Autonomous Region) and in Funing County (Yunnan Province). *AEMR-EJ*, 5, pp.66-72. DOI: 10.30819/aemr.5-8
- Luo, Jingchao & Lin, Zhi. (2023). Interview at Hotel City Comfort Inn, Napo county, 11 September. Personal collection.
- Li, Zongfu & Zhang, Qian. (2021). 美、法、新、中国澳门声像档案立法比较及启示 [Comparison of Audiovisual Archives Legislation in the United States, France, Singapore, and Special Administrative Regions of China and its Implications]. *Archives Management*, 5, pp.55-58.
- Ling, Jiasui. (2022). 民族音乐学音像档案实践研究 [A Study of Ethnomusicological Audiovisual Archival Practices]. *Chinese Music*, 1, pp.100-107.
- Liao, Hanbo. (2010). 台语支中部组侬语（德靖土语）音系概况及其拼音方案详解 [An overview of the sound system of the Central Taic language Yang-Nong (Dejing vernacular) and description of a phonetic spelling system]. *Chinese Zhuang Studies*, 4, pp.70-192.
- Liao, Hanbo & Tai, Chung-pui. (2019). 广西德保县壮族对歌传统“吟诗”的音韵格律及歌路举要——以〈德保歌圩山歌〉为例 [Phonological rules, poetic form and dialogue pattern of the traditional Zhuang antiphonal singing ‘ngyam sley’ (吟诗) in Debao, Guangxi: Example of ‘Folksong of Debao Song Fair’ (德保歌圩山)]. *Studies of Ethnic Literature*, 4, pp.15-36.
- Liu, Zhili & Xie, Zhenzhen. (2018). 新传媒时代壮族民歌的保护与传承研究 [Research on the Protection and Inheritance of Zhuang Songs in the Media Era]. *Journal of Guangxi Open University*, 3, pp. 94-96.
- Liu, Hui & Lu, Minning. (2017). 论广西壮族民歌语音的修辞手法 [Rhetorical Devices in the Phonetic of Guangxi Zhuang songs]. *Journal of Mudanjiang Normal University (Social Sciences)*, 5, pp.98-104.
- Luo, Caijuan. (2017). Historical Memory and Ethnic Identity: the Cultural Representation of “Luo Yue” as the Main source of the Zhuang Ethnic Group. *Guangxi Minzu Yanjiu*, 6, pp.77-84.
- Macksey, Richard, and Eugenio Donato. (2007). *The Structuralist Controversy: The Languages of Criticism and the Sciences of Man*. Baltimore: Johns Hopkins Press.
- McLeod, Norma. (1974). Ethnomusicological Research and Anthropology. *Annual Review of Anthropology*, 3(1), pp.99-115. DOI:/10.1146/annurev.an.03.100174.000531
- Musib, Ahmad Faudzi. (2015). *Contextual Sound Preservation of Selected Local String Instruments*. Doctoral thesis. Serdang: Universiti Putra Malaysia.

- Musib, Ahmad Faudzi. (2012). The Noise Most Wanted. (*Music* $\wedge$ *Dance*) $\in$ *Environment*. UPM Book Series on Music Research 5. Edited by Gisa Jähnichen and Chinthaka Meddegoda. Serdang: UPM Press, 217–230.
- Compilation Committee of Napo County. (2002). *The Annals of Napo County*. Nanning: Guangxi People's Publishing House.
- Pijanowski, B. C., Villanueva-Rivera, L. J., Dumyahn, S. L., Farina, A., Krause, B., Napoletano, B. M., Gage, S. H., & Pieretti, N. (2011). Soundscape Ecology: The science of Sound in the Landscape. *BioScience*, 61(3), pp.203-216.
- Pan, Qixu & Qin, Naichang. (1993). 壮族百科全书 [Zhuang Encyclopedic Dictionary]. Nanning: Guangxi People's Publishing House.
- Patel, Aniruddh D. (2003). Language, Music, Syntax and the Brain. *Nature Neuroscience*, 6(7), pp.674-681.
- Powell, Andy. (2003). Expressing Qualified Dublin Core™ in HTML/XHTML meta and link elements. Available at: <https://dublincore.org/specifications/dublin-core/dcq-html/> last retrieved 19 July 2022.
- Schafer, R. M. (1993). *The Soundscape: Our Sonic Environment and the Tuning of the World*. Available at: <http://ci.nii.ac.jp/ncid/BA51274040>, last retrieved 5 June 2023.
- Schafer, R. M. (1969). *The New Soundscape: a Handbook for the Modern Music Teacher*. <http://ci.nii.ac.jp/ncid/BA04846320>, last retrieved 5 June 2023.
- Seeger, Anthony. (1986). The Role of Sound Archives in Ethnomusicology Today. *Ethnomusicology*, 30(2), pp. 261–276. DOI: 10.2307/851997
- Seeger, Charles. (1977). *Studies in Musicology 1935-1975*. Berkeley: University of California Press.
- Šmidchens, G. (1999). Folklorism Revisited. *Journal of Folklore Research*, 36(1): 51–70
- Shao, Xiaojie. (2022). How “7,000 Hours?” More than “7,000 Hours!”. *People Music*, 9: 74-77.
- Stanford, James N. and Pan, Yanhong. (2013). The sociolinguistics of exogamy: Dialect acquisition in a Zhuang village. *Journal of Sociolinguistics*, 17(5), 573–607. <https://doi.org/10.1111/josl.12052>
- Southworth, MF. (1967). *The Sonic Environment of Cities*. Doctoral thesis, Cambridge: Massachusetts Institute of Technology.
- Su, Huihui & Huang, Xingyun. (2017). 翻译适应选择论角度下壮族民歌韵律特点及其英译研究 [A study on the Rhythmic Characteristics of Zhuang Songs and Their English Translation from the Perspective of Translation Adaptation

Selection Theory]. *Three Gorges Tribune (Three Gorges Literature-Theoretical Edition)*, 6, pp.52-58.

The State Council of the People's Republic of China (2014). Ethnic Groups in China. Available at: Ethnic Groups in China (www.gov.cn) Last retrieved 27 June 2023.

Trask, R. L. (2007). *Language and Linguistics: The Key Concepts*. New York: Routledge.

Truax, Barry. (2001). *Acoustic Communication*. 2nd edition. Westport: Ablex.

Wang, Mingfu & Zhao, Shijun. (2011). 文山壮族土支系的原始宗教 [The Primitive Religion of the Tu Branch of the Wenshan Zhuang]. *Journal of Wenshan College*, 1, pp.24-28.

Wang, Yusang. (2009). 哈世伦中国、蒙古探险录音档案寻踪 [Seek for the Tracks of Recording Files on Haslund's Exploration in China and Mongolia]. *Music Research*, 1, pp.15-23.

Wang, Yingfen. (2008). *Listening to the Colony: Kurosawa Takatomo and the Wartime Survey of Formosan Music (1943)*. Taipei: Taiwan University Library.

Wang, Jue. (2007). 录音在民族音乐学田野考察中的桥接角色——以中国艺术研究院音响档案为例 [The Bridging Participation of Sound Recording in Fieldwork of Ethnomusicology]. Master's thesis. Beijing: Chinese National Academy of Arts.

Wang, Wenjie, Qin, Yu & Lu, Jing. (2018). 非物质文化遗产数据库建设的思考 [Reflections on the Construction of A Database on Intangible Cultural Heritage]. *Shang Qing*, 14, pp.21-22.

Wei, Huiling. (2016). 浅析壮族民歌中的隐性音乐特点 [An Analysis of the Implicit Musical Characteristics in Zhuang Songs]. *Song of the Yellow River* (21), 80-81.

Wei, Jingyun & Qin, Xiangzhou. (2008). *壮语基础教程* [Basic Zhuang Language Tutorial]. Beijing: China Minzu University Press.

Wei, Xiaoshi. (2017). 探索中的语言：“塔石”在新疆的音乐档案实践 [Language in Exploration: The Musical Archival Practice of “Tashi” in Xinjiang]. *Folk Culture Forum*, 3, pp.111-124.

Wei, Xinglang. (2012). The Reform of Pinyin Zhuang Words in New Fangkuai Zhuang Words. *Journal of Minzu University of China (Philosophy and Social Sciences Edition)*, 6, pp.120-125.

- Wen, Quan. (2018). 广西壮族民歌音色型润腔及审美取向探微 [Exploration of the Timbre Type Embellishment and Aesthetic Orientation of Guangxi Zhuang Songs]. *National Music*, 4, pp.6-7.
- Widman, John Harvey. (2019). *Music and Language in the Strophic Singing of the Zhuang Minority in Southern China*. Los Angeles: UCLA, PhD Thesis.
- Wu, Dequn. (2012). 壮族山歌与人的社会化——以认知和情感为视角 [Zhuang Songs and Human Socialization - A Cognitive and Affective Perspective]. Doctoral thesis. Nanjing: Nanjing University.
- Wu, Guodong (2023). 文化视野中的民间音乐——类别概念与界定新释 [Folk Music in Cultural Perspective - A New Interpretation of Category Concepts and Definitions]. *Chinese Music*, 6, pp.5-14.
- Wu, Guodong. (1991). 从荒芜走向繁茂——少数民族音乐研究四十年 [From desolation to luxuriance - Forty years of minority music research]. *Musicology in China*, 3, pp.4-12.
- Xu, Ran. (2018). A Preliminary Study on the Relationship between Tunes and Lyrics of Liao Song. Beijing: China Conservatory of Music, PhD Thesis.
- Xu, Hongbo. (2010). 广西那坡县壮族节庆“唱囊海”仪式及音乐 [The Ritual and Music of the Zhuang Festival "Guo Nanghai" in Napo County]. *Journal of Guangxi Normal College*, 1, pp.20-25.
- Xu, Hanmei. (2010). 黑衣壮山歌唱腔析论 [An Analysis of the Singing Voice of Zhuang Songs of the Black Clothes Branch]. *Chinese Music*, 4, pp.186-189.
- Xiao, Mei. (2010). 田野的回声 [Echoes of the Field]. Shanghai: Shanghai Conservatory of Music Press.
- Yi, Ling., Xiao, Zhangqi & Xu, Qinyi. (2021). 我国非物质文化遗产保护 30 年：成就、问题、启示 [Intangible Cultural Heritage Protection in the Past 30 Years: Achievement, Problems and Implications]. *Administration Reform*, 11: 65-73.
- Yuan, Yuan. (2017). Study on the Construction and Service of the Characteristic Information Resource in Art Colleges: Talking about the Audio and Video Resources of Central Academy and of the Drama Library as an Example. *Journal of Library and Information Science*, 11: 6-11.
- Yue, Ziwei and Wu, Ninghua. (2021). “环北部湾”少数民族音乐研究四十年的实践与反思（1980—2020） [Practice and Reflection on 40 Years of Ethnic Minority Music Research in the “Bai Buwan Area” (1980-2020)]. *Music & Performance*, 3: 65-72.
- Zhu, Zhanmei and Pan, Linzi. (2023). 广西壮族民歌中衬词衬腔的研究——以《中国民间歌曲集成》广西卷为例 [A Study of Vocable and Singing Tunes in Guangxi Zhuang folk songs]. *Music Life*, 7, pp.92-96.

- Zhu, Tengjiao. (2022). Lyrics Production and Phonetic Relationships in Zhuang Antiphonal Singing. *Journal of Music in China*, 12, pp.35-78.
- Zhu, Tengjiao. (2021). 作为“礼仪”的歌唱——壮族对歌的制度性展演 [Singing as “etiquette” -- Zhuang people's systematic performance of song]. *Chinese Music*, 6, pp.26-35.
- Zhu, Tengjiao. (2020). 壮族对歌实践中的衬腔运用与表演功能 [The Application of Aligned Tones and Functional Performances in Zhuang Antiphonal Songs]. *People's Music*, 10, pp.52-56.
- Zhu, Bing. (2021). Intangible Cultural Heritage Law of the People's Republic of China: Content and System Interpretation. *China Intangible Cultural Heritage*, 1, pp.6-14.
- Zhang, Can & Zhang Qianyun. (2020). 地方性民歌文化渊源、认同与传承的维度关系——以广西龙州壮族民歌逐卜调为例 [The Dimensional Relationship Between Cultural Origin, Identity and Transmission of Local Songs: An Example of Longzhou Zhuang Song in Guangxi]. *Home Drama*, 2, pp.50-51.
- Zhao, Ying., Shen, Xiaoli., Li, Sheng., Zhang, Yanyun., Peng, Renhua & Ma, Keping. (2020). Progress and Outlook for Soundscape Ecology. *Biodiversity Science*, 28(7), pp. 806-820.
- Zhao, Yining. (2018). 广西壮族民族音乐形态分析——以壮族巫调、壮剧为例 [Analysis of Guangxi Zhuang People's Music Form--Taking Wudiao and Zhuang Opera as Examples]. *National Music*, 4, pp.34-36.
- Zhang, Yu. (2016). 壮族嘹歌壮-汉-英三语平行语料库构建及其应用 [Building a Parallel Multilingual Corpus and Application (Zhuang-Chinese-English)]. *Journal of Baise University*, 1, pp.127-130.
- Zhou, Guowen. (2015). 桂西壮族民间歌曲透视 [Zhuang Songs in Western Guangxi]. Beijing: Popular Literature and Arts Publishing House.
- Zou, Jing. (2010). 历史的回声：1909年蒙古族历史录音研究 [Echoes of History: A Study of the 1909 Mongolian Historical Recordings]. Master's Thesis. Shanghai: Shanghai Conservatory of Music.
- Zhang, Yanqun. (2007). 中国民族音乐音响档案的历史与现状研究 [A Study of the History and Present Situation of Chinese Ethnic Music Sound Archives]. Master's thesis. Beijing: Chinese National Academy of Arts.

APPENDICES

Appendix A

ARCPA Database

Table A1: ARCPA 3090 “Bainian Ge”

CODE NUMBER	SOURCE	DATE	PLACE
	CD-R	18 FEB 2018	Napo County, Baise City, Guangxi
	LENGTH	REC PERSON	LEGAL STATUS
03090	01:37:21	Huang E	ARCPA, MUSIC DEPT. FACULTY OF HUMAN ECOLOGY.UPM
TITLE		PERFORMER	
Bainian Ge		Male: Luo Jingchao; Female: Zeng Xianping, Huang Yumei, Li Xiulan, Huang Yanqing, Li Yanling	
DOCUMENT LINK			FILE FORMAT
/			.MP3
RELATED ITEM	/		
ARCHIVE PERSON	REMARKS		
Lin Zhi	An audio file extracted from a commercial disc.		 

Table A2: ARCPA 3091 “Liaoge Changchu Xinzhong Lian”

CODE NUMBER	SOURCE	DATE	PLACE
	CD-R	JUL 2008	Pingguo County, Baise City, Guangxi
	LENGTH	REC PERSON	LEGAL STATUS
03091	00:05:52	Unknow	ARCPA, MUSIC DEPT. FACULTY OF HUMAN ECOLOGY.UPM
TITLE		PERFORMER	
Liaoge Changchu Xinzhong Lian		Male: Lu Shunhong, Huang Guoguan Female: Zhang Lanyan, Liao Meiyan	
DOCUMENT LINK			FILE FORMAT
/			.MP3
RELATED ITEM	/		
ARCHIVING PERSON	REMARKS		
Lin Zhi	An audio file extracted from a commercial disc. Produced: The Pingguo County Tax Bureau Agencies. Chief planner: Xie Weihua, Huang Chaoning Lyricist: Li Chaowei, Huang Guoguan		 

Table A3: ARCPA 3092 “Love Songs of Longse”

CODE NUMBER	SOURCE	DATE	PLACE
	CD	4 FEB 2014	Longse village, Baise City, Guangxi
03092	LENGTH	REC PERSON	LEGAL STATUS
	01:08:38	Huang Zhongquan	ARCPA, MUSIC DEPT. FACULTY OF HUMAN ECOLOGY.UPM
TITLE		PERFORMER	
Love Songs of Longse		Male: Ruan Guotang; Female: Deng Mili.	
DOCUMENT LINK			FILE FORMAT
/			.VOB
RELATED ITEM	/		
ARCHIVING PERSON	REMARKS		 
Lin Zhi	An audio file extracted from a VCD.		

Table A4: ARCPA 3093 “The 65th anniversary celebration of Pingguo Senior High School”

CODE NUMBER	SOURCE	DATE	PLACE
	CDR	OCT 2005	Pingguo County, Baise City, Guangxi
03093	LENGTH	REC PERSON	LEGAL STATUS
	00:59:35	Author	ARCPA, MUSIC DEPT. FACULTY OF HUMAN ECOLOGY.UPM
TITLE		PERFORMER	
The 65th anniversary celebration of Pingguo Senior High School		/	
DOCUMENT LINK			FILE FORMAT
/			.MP3
RELATED ITEM	/		
ARCHIVING PERSON	REMARKS		 
Lin zhi	An audio file extracted from a commercial disc.		

Table A5: ARCPA 3094 “Moonlight Love”

CODE NUMBER	SOURCE	DATE	PLACE
	Online Show	22 JUN 2023	Chongzuo City, Guangxi
03094	LENGTH	REC PERSON	LEGAL STATUS
	00:02:42	Unknow	ARCPA, MUSIC DEPT. FACULTY OF HUMAN ECOLOGY.UPM
TITLE		PERFORMER	
Moonlight Love		The Tianqin group of Guangxi Arts University	
DOCUMENT LINK			FILE FORMAT
/			.MP3
RELATED ITEM	/		
ARCHIVING PERSON	REMARKS		 
Lin Zhi	Produced: The China Media Group Collected: Nong Huamei Adapted: Wei Haiyang		

Table A6: ARCPA 3095 “Such a Heaving Night”

CODE NUMBER	SOURCE	DATE	PLACE
	ZOOM H1n	10 SEP 2021	Jiangzhou District, Chongzuo City, Guangxi
03095	LENGTH	REC PERSON	LEGAL STATUS
	00:00:43	Lin Zhi	ARCPA, MUSIC DEPT. FACULTY OF HUMAN ECOLOGY.UPM
TITLE		PERFORMER	
What a Heaving Night		Female: Wei Zhilian	
DOCUMENT LINK			FILE FORMAT
/			.WAV
RELATED ITEM	/		
ARCHIVING PERSON	REMARKS		 
Lin Zhi			

Table A7: ARCPA 3086 “Gantuoyan Cave” 1

CODE NUMBER	SOURCE	DATE	PLACE
	ZOOM H1n	12 SEP 2023	Gantuoyan Cave, Napo County, Baise City, Guangxi
03086	LENGTH	REC PERSON	LEGAL STATUS
	00:21:49	Lin Zhi	ARCPA, MUSIC DEPT. FACULTY OF HUMAN ECOLOGY.UPM
TITLE		PERFORMER	
Gantuoyan Cave Position 1		Male: Luo Jingchao; Female: Li Xiulan	
DOCUMENT LINK			FILE FORMAT
2023 PUIDSF, Article (Author)			.WAV
RELATED ITEM	2023		
ARCHIVING PERSON	REMARKS		 
Lin Zhi			

Table A8: ARCPA 3087 “Gantuoyan Cave” 2

CODE NUMBER	SOURCE	DATE	PLACE
	ZOOM H5	12 SEP 2023	Gantuoyan Cave, Napo County, Baise City, Guangxi
03087	LENGTH	REC PERSON	LEGAL STATUS
	00:13:37	Lin Zhi	ARCPA, MUSIC DEPT. FACULTY OF HUMAN ECOLOGY.UPM
TITLE		PERFORMER	
Gantuoyan Cave Position 2		Male: Luo Jingchao; Female: Li Xiulan	
DOCUMENT LINK			FILE FORMAT
/			.WAV
RELATED ITEM	/		
ARCHIVING PERSON	REMARKS		  UNIVERSITI PUTRA MALAYSIA BERILMU BERBAKTI
Lin Zhi			

Table A9: ARCPA 3088 “Jiangbin Park”

CODE NUMBER	SOURCE	DATE	PLACE
	ZOOM H1n	17 OCT 2023	Jiangbin Park, Pingguo County, Baise City, Guangxi
03088	LENGTH	REC PERSON	LEGAL STATUS
	00:16:06	Lin Zhi	ARCPA, MUSIC DEPT. FACULTY OF HUMAN ECOLOGY.UPM
TITLE		PERFORMER	
Gantuoyan Cave Position 2		Male: Ma Daofan, Pan Runxin; Female: Liu Guimian, Li Xiulin	
DOCUMENT LINK			FILE FORMAT
IDSFASPU 2023			.WAV
RELATED ITEM	2023		
ARCHIVING PERSON	REMARKS		 
Lin Zhi			

Table A10: ARCPA 3080 “There is only you in my eyes”

CODE NUMBER	SOURCE	DATE	PLACE
	ZOOM H1n	12 SEP 2021	Jiuzhou, Chongzuo City, Guangxi
03080	LENGTH	REC PERSON	LEGAL STATUS
	00:01:28	Lin Zhi	ARCPA, MUSIC DEPT. FACULTY OF HUMAN ECOLOGY.UPM
TITLE		PERFORMER	
There is only you in my eyes		Female: Zhang Guiying, Zhong Xiuyan	
DOCUMENT LINK			FILE FORMAT
			.WAV
RELATED ITEM			
ARCHIVING PERSON	REMARKS		 
Lin Zhi	Position one		

Table A11: ARCPA 3081 “Yingke Ge”

CODE NUMBER	SOURCE	DATE	PLACE
	ZOOM H1n	5 SEP 2021	Jiuzhou, Chongzuo City, Guangxi
03081	LENGTH	REC PERSON	LEGAL STATUS
	00:02:03	Lin Zhi	ARCPA, MUSIC DEPT. FACULTY OF HUMAN ECOLOGY.UPM
TITLE		PERFORMER	
There is only you in my eyes		Female: Xu Xiuzhen, Zhao Hongjuan	
DOCUMENT LINK			FILE FORMAT
			.WAV
RELATED ITEM			
ARCHIVING PERSON	REMARKS		 
Lin Zhi	Position one		

Table A12: ARCPA 3082 “Tanqing Ge” (hot 2)

CODE NUMBER	SOURCE	DATE	PLACE
	SONY icd-px440	2 FEB 2017	Napo County, Baise City, Guangxi
03082	LENGTH	REC PERSON	LEGAL STATUS
	00:00:37	Lin Zhi	ARCPA, MUSIC DEPT. FACULTY OF HUMAN ECOLOGY.UPM
TITLE		PERFORMER	
Tanqing Ge		Male: Liang Youqiang;	
DOCUMENT LINK			FILE FORMAT
/			.WAV
RELATED ITEM	/		
ARCHIVING PERSON	REMARKS		 
Lin Zhi			

Table A13: ARCPA 3083 “Tanqing Ge” (hot 3)

CODE NUMBER	SOURCE	DATE	PLACE
	SONY icd-px440	2 FEB 2017	Napo County, Baise City, Guangxi
03083	LENGTH	REC PERSON	LEGAL STATUS
	00:00:35	Lin Zhi	ARCPA, MUSIC DEPT. FACULTY OF HUMAN ECOLOGY.UPM
TITLE		PERFORMER	
Tanqing Ge		Male: Liang Youqiang;	
DOCUMENT LINK			FILE FORMAT
/			.WAV
RELATED ITEM	/		
ARCHIVING PERSON	REMARKS		 
Lin Zhi			

Table A14: ARCPA 3084 “Langhua Ge”

CODE NUMBER	SOURCE	DATE	PLACE
	SONY icd-px440	18 OCT 2016	Napo County, Baise City, Guangxi
03084	LENGTH	REC PERSON	LEGAL STATUS
	00:00:16	Lin Zhi	ARCPA, MUSIC DEPT. FACULTY OF HUMAN ECOLOGY.UPM
TITLE		PERFORMER	
Tanqing Ge		Male: Luo Jingchao; Female: Pan Xiucui	
DOCUMENT LINK			FILE FORMAT
/			.WAV
RELATED ITEM	/		
ARCHIVING PERSON	REMARKS		 
Lin Zhi			

Table A15: ARCPA 3085 “Where friends come from”

CODE NUMBER	SOURCE	DATE	PLACE
	ZOOM H1n	07 AUG 2022	Longlin, Baise City, Guangxi
03085	LENGTH	REC PERSON	LEGAL STATUS
	00:00:04	Lin Zhi	ARCPA, MUSIC DEPT. FACULTY OF HUMAN ECOLOGY.UPM
TITLE		PERFORMER	
Where friends come from		Female: Luo Su	
DOCUMENT LINK			FILE FORMAT
/			.WAV
RELATED ITEM	/		
ARCHIVING PERSON	REMARKS		 
Lin Zhi			

Appendix B

Transcription of Selected Interviews

Transcription 1

Interviewee: Wei Dehua

Date: 27 September 2021

Place: Longlin, Baise City

Author: What are your thoughts on the heritage of zhuang songs?

Wei: I often think about bringing the ancient Zhuang songs into the new generation and attracting more listeners. I started to think about revamping the songs in 2017 to let more young people to join us.

Author: What are the inheritance dilemmas of the Longlin Zhuang songs?

Wei: The lyrics are mostly in Zhuang language and idioms, which are implicit in their expression. It is difficult for people who do not have a good command of their mother tongue to understand them. Zhuang singers don't spit out the words clearly, sing at a free rhythm, which makes it difficult for beginners. The lyrics are too long and are suitable for family singing sessions but not for the stage. The zhuang singers are more focus on the lyrics, which are sung in a straightforward manner. Young people don't like this kind of expression.

Author: Why do you want to compose?

Wei: By capturing, refining, and reorganizing the typical features of traditional zhuang songs, it is conducive to promoting the culture of characteristics.

Author: How do you compose traditional Zhuang songs?

Wei: We refine the lyrics of the traditional songs and reorganize their structure. Standardize the rhythm of the songs and present them in a variation and superposition way. Use the text-redundent syllable to fuse with popular music. Use elements of the zhuang songs to create new lyrics and melody.

Transcription 2

Interviewee: Huang Guoguan

Date: 11 September 2023

Place: Napo County, Baise City

Author: What is the difference between singing in the past and now?

Huang: I remember when I was a child, about 1960, we used to do this kind of preparatory singing because you didn't know where the other singer was, and sometimes in the mountains, for example, when I was working, if I were tired from working and wanted to sing, I would shout a "yo", and see if there is a response. If there was, the other person would say "yay" (answer). But that doesn't happen anymore. Nowadays, people use cell phones to ask their friends to go somewhere to sing.

Author: Were you able to sing in 1967-1977?

Huang: No, songs were banned during this time. But the control couldn't reach my hometown because we were closed to traffic, within the mountains, and it was hard for outsiders to get in. We usually sing in a mountain lane at the intersection of Chengguan, Taiping, and Guohua townships, where several nearby villages and towns gather. This place was under the jurisdiction of Gohua. Now, it has been turned into a reservoir. The Hakka people in the neighborhood were smart enough to set up simple huts there to sell fruits and vegetables.

Author: Did you often go here to sing?

Huang: No, we only gather here for the March 3rd festival every year.

Author: You have old songbooks; how did you preserve them until now?

Huang: During this period, the songbooks were taken to be burned. There was a woodworker who made himself a two-layer wooden box, but the second layer

was hidden, and his songbooks were put inside. he gave me all these songbooks.

Author: What was it like waiting until you could sing freely?

Huang: When the singing was allowed, and transportation became more convenient, there were people everywhere in the fields, and by the side of the road, each group of two men and two women would take turns singing, and other people could watch from the sidelines, but they wouldn't disturb.

Transcription 3

Interviewee: Luo Jingchao

Date: 11 September 2023

Place: Napo County, Baise City

Author: There are many Zhuang songs about the theme of love, and young men and women will sing to find their favorite partners. Besides singing, how will men and women express themselves?

Luo: Girls will give shoes to boys. After the first song, the girl waits for the crowd to disperse and takes a straw to measure the shoe prints of the male singer. Wait until the second meeting to give the shoes to the male singer. Giving shoes represents love among the Zhuang people or presenting insoles.

Author: Did you go through a period where you weren't allowed to sing?

Luo: Yes, of course. In 1968, a group came to my house, and my mother was the women's director then. My mother was the women's director at the time. At that time, they said that singing was not allowed and that all the books, such as the Daogong books, needed to be handed over, and if they weren't, they would be arrested and paraded in the street immediately. At night, I secretly went to sing.

Author: Where did you sing?

Luo: Just at home. We sang at the zungq tanz in a low voice so the group couldn't hear us. I was 15 years old at the time, and when a female singer came to sing, I was there. I was young and had a strong voice, and all the female singers loved to sing with me. I did not like to sing with those who didn't have a good voice. I didn't care if they were pretty, but they had to have a good voice.

Author: What do you think are the criteria for a good voice?

Luo: That kind of voice is very harsh; it doesn't go well with my voice, but that kind of voice is softer and more harmonized with my voice; it sounds sweet and transparent, so I love to sing with others. I love to sing, and if I meet a partner with a harmonized voice, I can sing all day long.

Author: When did singing become active again?

Luo: I think it was during the 1980s and 1981s when people were singing everywhere, yelling when they went out, and then after '84, it was less and less.

Author: Why?

Luo: After the Third Plenary Session of the Eleventh Central Committee, when the economy started to develop, everyone went out to work, and slowly, they began to have tape recorders and could play CDs. I started participating in the Guangxi International Folk Song Festival in 1996, and then in 2000, I started to record a CD-ROM of Napo County songs.

Appendix C

Selected Audiovisual Recordings

Audio recording analysis based on overall audible quality. All related recording are listed below.

1. “Pingguo Senior High School 65th Anniversary Celebration Literary Gala”. 2005.
2. “Liao Ge Chang Chu Xin Zhong Lian”. 2008.
3. “Lang Ge”. 2006.
4. “Liao Song of Zhuang”. 2005.
5. “Love Song of Longse”. 2014.
6. “100 Songs of the Zhuang”, Second Series, No. 51-100. 2008.
7. “Liao Song”. 2008.
8. “Pingguo Liao Song”. 2004.
9. “Gratitude to Mother”. 2004.
10. “Bainian Ge”. 2018.
11. “Xiameng Jiuge”. 2018.
12. “Nongbu Jiuge (Episode One)”. 2019.
13. “Nongbu Jiuge (Episode Two)”. 2019.
14. “Nongbu Jiuge (Episode Three)”. 2019.
15. “2013 Spring Festival Square Cultural Performances in Napo County - Performed by Old Revolutionary Base Areas Art Troupe”. 2013.
16. Celebration of Liang Guorui and Nong Hui Fei's new house (Episode One). 2020.
17. Commemorative Video Album of Napo Zhuang Songs. 2020.
18. Celebration of Liang Guorui and Nong Hui Fei's new house (Episode Two).
19. Commemorative Video Album of Napo Zhuang Songs. 2020.
20. Celebration of Liang Guorui and Nong Hui Fei's new house (Episode Three).

21. Commemorative Video Album of Napo Zhuang Songs. 2020.
22. The 86th Birthday Ceremony of Huang Yingwen in Nonglong Village (Episode One). 2018.
23. The 86th Birthday Ceremony of Huang Yingwen in Nonglong Village (Episode Two). 2018.
24. Napo Baima Jiuge (Episode One) [Wedding Ceremony]. 2021.
25. Napo Baima Jiuge (Episode Two) [Wedding Ceremony]. 2021.
26. Nong Fenglun's 67th Birthday Ceremony. 2004.



Appendix D

The Basic Tones of Various Zhuang Dialects

Longlin Various Nationalities Autonomous County, Baise City	θo:n ¹ , muŋ ² , huŋ ³ , ma ⁴ , kwa ⁵ , ta ⁶
Tianlin County, Baise City	θo:n ¹ , muŋ ² , huŋ ³ , ma ⁴ , kwa ⁵ , ta ⁶
Debao County, Baise City	θo:n ¹ , mɔ:i ² , khən ³ , ma ⁴ , kwa ⁵ , ta ⁶
Jingxi County, Baise City	lo:n ⁵⁴ , mau ³¹ , khuŋ ²³²³ , ma ¹³ , kwa ⁴⁵ , ta ²¹⁴
Daxin County, Chongzuo City	lo:n ⁵⁵ , mau ²¹ , khuŋ ⁴⁴ , ma ⁴² , kwa ³³ , ta ⁵⁵
Long zhou County, Chongzuo City	lo:n ¹ , mau ² , khin ³ , ma ⁴ , kwa ⁵ , ta ⁶
Jiangzhou District, Chongzuo City	θo:n ¹ , mɔ:i ² , khən ³ , ma ⁴ , kwa ⁵ , ta ⁶
Pinxiang County, Chongzuo City	θo:n ¹ , mau ² , khin ³ , ma ⁴ , kwa ⁵ , ta ⁶
Shangsi County, Fangchenggang City	θø:n ¹ , maŋ ² , han ³ , ma ⁴ , kwa ⁵ , ta ⁶

Appendix E

The Musical Transcription

1、Langhua Ge

$\text{♩} = 55$

(n⁰) ŋwa:i⁶ (li⁰) ku¹ (le⁰) ʔduək⁹ (ŋa⁰ le⁰) ta:i⁶ (li⁰) ha³ (lɔ⁰ la:ŋ² ŋa⁰ nə⁰
(n) ngvaih (li) go (le) ndok (ŋa le) daih (li) haj (lɔlangz nga nw

4
 əi⁰ nɔ⁰), luk⁸ (le⁰) ta:n⁶ ŋwa:i⁶ (li⁰ŋi⁰ ja⁰) ku¹ ʔduək⁹ (əi⁰) tsam² pja¹,
 wi no), lwg (le) danh ngvaih (li'ngi ya) go ndok (wi) cimz bya,

7
 (li⁰ ja⁰) luk⁸ (lɔ⁰) ta:n⁶ (na⁰θi:n⁵ (li⁰) khau³ (le⁰) na² (lɔ⁰) tsam² (li⁰) khau³ (wəi⁰ la:ŋ² ŋa⁰ nɔ⁰).
 (li ya) lwg (lɔ) danh (na) senq (li) haeuj (le) naz (lɔ) cimz (li) haeux (vwi langz nga no).

10
 (he⁰ ja⁰ lai:⁰ na:ŋ² a⁰ le⁰ nɔ⁰)
 (he ya lai nangz a le no)

13
 ŋe⁶ (ja⁰) liu² (li⁰) ŋwa:i⁶ kok⁷ (ŋa⁰) mai⁴ (ne⁰ əi⁰) ʔau¹ (a⁰) ŋam¹, (le⁰) na³ no:ŋ⁴ (a⁰) te³ mi² (le⁰) θam¹
 ngeh (ya) riuz (li) ngvaihgoek (ŋa) faex (ne wi) aeu (a) raem, (le) najnuengx (a) dej miz (le) sim

16
 lo⁴ (le⁰) ʔbau⁵ (ne⁰ əi⁰ na:ŋ² ŋa⁰ nɔ⁰)
 rox (le) mbouj (ne wi nangz nga no).

2、Tanqing Ge

J=55

(le⁰) na: n² (na⁰) na: n² (le⁰) ʔbau⁵ (lo⁰) than¹ (le⁰) na³ (no: n⁴) ɲa⁰ le⁰ no⁰),

 (le) nanz (na) nanz (le) mbouj (lo) raen (le) naj (nuengx nga le no),

4



la:i⁶ no:n⁴ (li⁰) pja:k¹⁰pa¹ (le⁰) ja⁶ (lo⁰ ei⁰ i⁰) mi⁵ (lo⁰) ma²,
laih nuengx (li) byag bae (le) yah(lo ei yi)miq (lo) ma,

7



(li⁰) van² (du⁰) tsan² (na⁰) tsu⁶ than¹ (le⁰) tha¹ (lo⁰) hui² (ja⁰)maw⁵ (no⁰ ui⁰i⁰)
(li) ngoenz (ndu) caenz (na) couh raen (le) da (lo) hoiz (ya) moq (no ui'y'i)

9



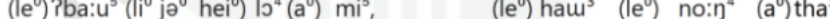
(no:n⁴ ŋa⁰ no⁰). (le⁰ na:n² (nou⁰ la:i¹ (ja⁰ mi⁵ (le⁰ than¹
(nuengx nga no). (le) nanz (nou) lai (ya) miq (le) raen

11



(ma⁰) la:ŋ² (le⁰) pai¹ (ja⁰) ta:u⁵ (la:ŋ² ŋa⁰ də⁰), (hei⁰) na³ (le⁰) pi⁶ (le⁰) ŋaŋ²
(ma) langz (le) bae (ya) dauŋ (langz ŋa ndw), (hei) naŋ (le) beix (le) nyaengz

14



pan² (le⁰)[?]ba:u⁵ (li⁰ jə⁰ hei⁰) lə⁴ (a⁰) mi⁵,
baenz (le)mbauq (li yw hei)rox(a) miq.

(le⁰) haw³ (le⁰) no:n⁴ (a⁰)tha³ (le⁰) ki³
(le) hawj (le) nuengx (a) caj (le)geij

17



(ja⁰) pi¹ (lei⁰) ʔjou⁵ (a⁰) pjou⁵ (nə⁰ ei⁰ i⁰ la:ŋ² ŋa⁰ ne⁰). (ne⁰ nɔ⁰ ɔ⁰ hui⁰ lo⁰
(ya) bi (lei) youq (a) byouq (nw ei yi langz nga ne). (ne no o hui lo

21



na⁰ le⁰ na⁰) mək⁷ (a⁰)ʔja:k⁹ (le⁰)ʔdən¹phjak⁷ (le⁰) θom³ (mɔ⁰ ei⁰) mi⁵ (ja⁰)lon²,
nga le no) moek (a) iek (le) ndwn byaek (le) soemj (mo ei) miq (ya) roengz.

25



(li⁰) ne:n¹ tsin² (ŋa⁰) ʔdən¹ nə⁴ (lei⁰) lun² ŋan² (le⁰) ke:n⁴ (lei⁰)
(li) nien cingz (ŋa) ndwn noh (lei) lungz nyaengz (le) genx (lei)

27



no:ŋ⁴ ŋa⁰ no⁰. (le⁰) ʔdən¹ (nou⁰) la:p¹⁰ ma² (lei⁰) hai⁵
nuengx ŋa no. (le) ndwen (nou) lab ma (lei) haeq

29



(jə⁰) na² kin¹ (na⁰) khau³ (li⁰) la:ŋ² ŋa⁰ lei⁰ də⁰,
(yw) naz gwn (na) haeux (li) langz ŋa lei ndw,

31



(hei⁰) ʔdən¹ (na⁰) ŋi² (le⁰) ʔdam¹ ku¹ (li⁰) ʔbau³ (no⁰ ei⁰) pi:n³ (na⁰) piu²,
(hei) ndwen (na) ngeih (le) ndaem go (li) mbaej (no ei) bienq (na) biuz,

34



(le⁰) ka:p¹⁰ (le⁰) no:ŋ⁴ (ŋa⁰) tsan² (lei⁰) ʔdai³ (lo⁰) miu² (a⁰) le² (ja⁰) we:ŋ¹
(le) gap (le) nuengx (ŋa) caengz (lei) ndaej (lo) miuz (a) lez (ya) veng

36



(ei⁰) la:ŋ² ŋa⁰ no⁰. (m⁰ no⁰ hui⁰ no:ŋ⁴ ŋa⁰ le⁰ no⁰)
(ei) langz ŋa no. (m no hui nuengx ŋa le no)

39



no:k⁸ (ŋa⁰) kut⁷ (lei⁰) θə:ŋ³ khən³ (te⁰) ta:t⁹ (lei⁰) ke:m¹ (ma⁰) lin²,
roeg (ŋa) gut (lei) siengj hwnj (de) dat (lei) gem (ma) lingz,

42



(li⁰) khom² (do⁰) ra² (le⁰) ʔbau⁵ mi² (lei⁰) re:ŋ² ta:ŋ³ (le⁰) wa:ŋ⁴ (no⁰ ui⁰) i⁰
(li) haemz (ndo) raz (le) mbuj miz (lei) rengz dangj (le) vangx (no ui) yi

44



no:ŋ⁴ ŋa⁰ no⁰). (ŋa⁰ dui⁰ la:ŋ² ŋa⁰ də⁰ hei⁰ nə⁰ ei⁰)
nuengx ŋa no). (nya ndui langz ŋa ndw hei nw ei)

47

no:k⁸ le:k¹⁰(dəŋ⁰ ŋa⁰) θə:ŋ³ tap⁸ (ma⁰)pək⁷ (nei⁰ ei⁰) kap⁷ (pha⁰)me:ŋ²,
 roeg reg(ndwng nga) siengj daeb (ma) bik (nei ei) gip (pa) mengz,

50

(li⁰) ti² (lo⁰) ʔbən¹ (na⁰) ʔbau⁵ (lei⁰) mi²
 (li) diz (lo) mbin (na) mbouj (lei) miz

51

(ja⁰) re:ŋ² (ŋa⁰) kjai¹ pək⁷ (no⁰ ui⁰ i⁰ la:ŋ² ŋa⁰ no⁰).
 (ya) rengz (nga) hai bik (no ui yi langz nga no).

BIODATA OF STUDENT

Lin Zhi was born in 1993. She studied Musicology at Jishou University, PRC, in 2015. She completed her Master of Music (Ethnomusicology) at Guangxi Arts University, PRC, in 2018. She was working as a narrator at the Guangxi Arts University's Museum of Ethnic Music in 2018-2020, and she was working in the Culture Department in Yuanzhou District, Yichun City, in 2020-2022. She also participated actively in projects as a project leader following Guangxi Arts University 2022 China-ASEAN Music Culture Exchange and Research Center Open Subjects “A Study on the Exchange of China-ASEAN Audio Archives Applications in the Digital Age - An Example of ARCPA and Zhuang Song” in November 2022. Her areas of interest are Audiovisual Archiving, Contextual Sound Preservation, and Musicology. She is singing and plays several local musical instruments. She has published articles and reviews on various singing and music history topics. She focused on local music practices among people in Guangxi, such as the Zhuang.

LIST OF PUBLICATIONS

Lin Zhi & Ahmad Faudzi Musib (2024). The Sound and Function of Different Language Particles in Zhuang Songs of some Western Areas in Guangxi. *AEMRJ*, 13: 53-64.

Lin Zhi (2023). How a Song can be Exhibited in a Music Museum. *Journal for Research in Music*, 1: 1-7.

Lin Zhi (2023). Review Essay of the 24th Symposium of the ICTM Study Group on Musical Instruments. *AEMRJ*, 11: 117-122.

Lin Zhi (2023). Zhuang Song Preservation Efforts. *Cultural Arts Research and Development*, 2 (3): 31-38.

