

M.Phil. Dissertation

Livelihood Strategy and Vulnerability of Brass and Bell Metal Artisans in Bangladesh

**This Dissertation is Presented to the Institute of Social Welfare and
Research, University of Dhaka as Fulfillment of the Requirement for the
Degree of Master of Philosophy (M.Phil)**



Institute of Social Welfare and Research

University of Dhaka

Dhaka-1205

Livelihood Strategy and Vulnerability of Brass and Bell Metal Artisans in Bangladesh

M.Phil. Dissertation

Researcher

Hossain Mahmud

Registration No: 187

Session: 2020-2021

Institute of Social Welfare and Research

University of Dhaka

Dhaka-1205

Supervisor

Dr. Sk. Tauhidul Islam

Professor

Institute of Social Welfare and Research

University of Dhaka

Dhaka-1205



Institute of Social Welfare and Research

University of Dhaka

Dhaka-1205

Dedication

***I dedicate this dissertation to my family and
supervisor.***

Declaration of Ownership

I hereby declare that this M.Phil. dissertation entitled ‘Livelihood Strategy and Vulnerability of Brass and Bell Metal Artisans in Bangladesh’ is prepared for the degree of Master of Philosophy under the guidance and supervision of Prof. Dr. Sk. Tauhidul Islam, Institute of Social Welfare and Research, University of Dhaka, Bangladesh. I have done this research with my own effort and incorporate relevant information. I have used a lot of literature in my study and have also provided accurate references. For completing the procedure of Master of Philosophy (M.Phil.), I am submitting this dissertation to the Institute of Social Welfare and Research, University of Dhaka, Bangladesh. I have not submitted any part of this dissertation for any assessment.

Hossain Mahmud

M.Phil. Researcher

Registration No: 187

Session: 2020-2021

Institute of Social Welfare and Research

University of Dhaka

Dhaka-1205

ড. শেখ তৌহিদুল ইসলাম

এম এস (গোথেনবার্গ, সুইডেন) পি এইচ ডি

অধ্যাপক

সমাজকল্যাণ ও গবেষণা ইনস্টিটিউট

ঢাকা বিশ্ববিদ্যালয়

ঢাকা-১২০৫, বাংলাদেশ

+৮৮ ০১৫২১৪৩৪৬৮৭



Dr. Sk. Tauhidul Islam

MS (Gothenburg, Sweden), Ph.D

Professor

Institute of Social Welfare & Research

University of Dhaka

Dhaka-1205

+88 01521434687 (cell)

E-Mail: sktauhidul@du.ac.bd

Certificate of Approval

This is to certify that Hossain Mahmud, an M. Phil researcher of the Institute of Social Welfare and Research, University of Dhaka, has effectively completed his dissertation entitled "**Livelihood Strategy and Vulnerability of Brass and Bell Metal Artisans in Bangladesh**" under my direct supervision. To the best of my knowledge, it is a unique and original work. I am recommending and forwarding this dissertation to the University of Dhaka, through the Institute of Social Welfare and Research for further official formalities to accept under the requirements for the degree of Masters of Philosophy.

Islam.

(Prof. Dr. Sk. Tauhidul Islam)

Research Supervisor

ACKNOWLEDGEMENTS

At the very outset, I would like to express my profound gratitude to Almighty Allah, the most benevolent and merciful, whose everlasting mercy enabled me to complete the research given here.

I'd like to convey my heartfelt gratitude to my dissertation supervisor, Dr. Sk. Tauhidul Islam, Professor, Institute of Social Welfare and Research, University of Dhaka, for his excellent advice and supervision. His extensive expertise, sound advice, endless support, passion, and constructive criticism enabled me to finish this M.phil. I'll never forget the computational assistance he provided to help me finish my work on time. It is worth noting that without his help, I would not have been able to overcome many crises during the preparation period. I would like to express my intense gratitude to my supervisor for his admirable guidance and supervision throughout my dissertation. I am grateful to him for holding me to a high research standard and enforcing strict validations for each research result, and thus teaching me how to do research. His motivating suggestions, ideas and accessibility helped me a lot on the way to the development of this work. This M.Phil. could not have been completed properly without him.

I am extremely grateful to the Institute of Social Welfare and Research for providing necessary support. Also, my sincere gratitude to all professors for their effort in providing me with high quality knowledge.

Most of all, I am frankly indebted to the respondents who charitably shared stories, time, and perceptions regarding their Livelihood Strategy and Vulnerability of Brass and Bell Metal Artisans in Bangladesh. Their flexibility and originality are at the heart of this research and endure the true inspiration behind this work.

With Regards

Hossain Mahmud

M.Phil. Researcher

Registration No: 187

Session: 2020-2021

Institute of Social Welfare and Research

University of Dhaka

Dhaka-1205

ABBREVIATIONS AND ACRONYMS

ADB	Asian Development Bank
BBS	Bangladesh Bureau of Statistics
BDT	Bangladeshi Taka
BFTI	Bangladesh Foreign Trade Institute
BILs	Bangladesh Institute of Labour Studies
BSS	Bangladesh Sangbad Sangstha
CAD	Computer-Aided Design
CMSME	Cottage, Micro, Small and Medium Enterprises
CSR	Corporate Social Responsibility
DoE	Department of Environment
ESDO	Eco-Social Development Organization
GDP	Gross Domestic Product
GO	Government Organization
ILO	International Labour Organization
LGED	Local Government Engineering Department
MFCE	Microenterprise Financing and Credit Enhancement
MoI	Ministry of Industries
MoC	Ministry of Commerce
NGO	Non-Governmental Organization
PKSF	Palli Karma-Sahayak Foundation
PTSD	Post-Traumatic Stress Disorder

SDT	Strategic Decision Theory
SME	Small and Medium Enterprise
SSNP	Social Safety Net Program
STCI	Sustainable Tourism Criteria for India
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
USAID	United States Agency for International Development
WB	World Bank

TABLE OF CONTENTS

Dedication	i
Declaration	ii
Certificate of Approval	iii
ACKNOWLEDGEMENTS	iv
ABBREVIATIONS AND ACRONYMS	v
TABLE OF CONTENTS	vii
LIST OF FIGURES.....	xi
LIST OF TABLES	xii
ABSTRACT.....	xiii
CHAPTER I: INTRODUCTION	1
1.1 Introduction	2
1.2 Statement of the Problem	5
1.3 Significance of the Study	6
1.4 Objectives.....	8
1.5 Research Questions	9
1.6 Operational Definition of the Key Concepts	9
1.6.1 Livelihood Strategy	9
1.6.2 Vulnerability	10
1.6.3 Brass and Bell Metal Artisans	10
1.6.4 Livelihood Assets.....	10
1.6.5 Livelihood Outcome.....	10
1.7 Scope of the Study	10
1.8 Construction of the Thesis.....	11
1.9 Limitation of the study	14
1.10 Area Profile	15
1.10.1 Islampur (Jamalpur)	18
1.10.2 Kagmari (Tangail).....	21
1.10.3 Dhamrai (Dhaka)	23

1.11 Conclusion	26
CHAPTER II: LITERATURE REVIEW	27
2.1 Introduction	28
2.2 Brass and Bell Metal Artisans: Historical Overview	29
2.3 Socio-Cultural Significance of Brass and Bell Metal Artistry	30
2.4 Livelihood Strategies and Diversification	32
2.5 Livelihood Strategies and Vulnerabilities in Craft Communities	34
2.6 Government Policies and Support for Artisanal Crafts	35
2.7 Conclusion	36
CHAPTER III: CONCEPTUAL AND THEORETICAL FRAMEWORK....	38
3.1 Introduction	39
3.2 Conceptual Framework	39
3.2.1 Livelihood Assets	40
3.2.2 Livelihood Strategies	41
3.2.3 Vulnerability Context	41
3.2.4 Livelihood Outcomes	42
3.3 Theoretical Framework	42
3.4 Conclusion	44
CHAPTER IV: METHODOLOGY	45
4.1 Introduction	46
4.2 Methodology	46
4.3 Study Design	48
4.4 Study Site and Area	49
4.5 Study Period	49
4.6 Target Population and Sample Population	49
4.7 Selection of Study Participant	49
4.7.1 Inclusion Criteria	49
4.7.2 Exclusion Criteria	49
4.8 Sample Size	50
4.9 Sampling Technique	50
4.10 Quality Control and Quality Assurance	52

4.11 Data Management and Analysis.....	52
4.12 Ethical Considerations.....	55
4.13 Conclusion	56
CHAPTER V: QUANTITATIVE FINDINGS AND ANALYSIS	57
5.1 Introduction.....	58
5.2 The Demographic and Socio-economic condition of brass and bell metal artisans	59
5.3 The livelihood strategies of brass and bell metal artisans in Bangladesh.	62
5.4 The Assets and Capabilities of Brass & Bell Metal Artisans in Bangladesh	63
5.5 Sources of Raw Materials for Bell & Brass Metal Product.....	65
5.6 Vulnerability Assessment.....	73
5.7 The Coping Mechanism adopted by Artisan to mitigate the risk	86
5.8 Conclusion	92
CHAPTER VI: QUALITATIVE FINDINGS AND ANALYSIS	93
6.1 Introduction.....	94
6.2 Detailed Profile of FGD Participants	95
6.3.1 Social Status and Community Perception	99
6.3.2 Residential Location, Living Environment and Basic Infrastructure.....	101
6.3.3 Educational Access, School Experience and Social Acceptance	104
6.3.4 Occupational Dependency, Livelihood Pattern and Income Security	107
6.3.5 Daily Lifestyle Practices and Household Organization	109
6.3.6 Social Interaction, Cultural Participation and Community Engagement	111
6.3.7 Experiences of Discrimination, Exclusion and Social Barriers.....	113
6.3.8 Migration, Mobility and Livelihood.....	114
6.3.9 Access to Government and NGO Services	116
6.3.10 Coping Practices and Problem Minimizing Mechanisms	118
6.3.11 Collective Responsibility and Pathways for Artisan Upliftment.....	119
CHAPTER VII: SUMMING UP THE RESULTS AND DISCUSSION	122
7.1 Introduction.....	123

7.2 Summing up the Results of the Quantitative Part.....	123
7.3 Summing up the Results of the Qualitative Part.....	128
7.4 Discussion of the Quantitative Part	132
7.5 Discussion of the Qualitative Part	137
7.6 Conclusion	141
CHAPTER VIII: RECOMMENDATIONS AND CONCLUSION	143
8.1 Introduction.....	144
8.2 Recommendations	144
8.3 Suggestions for Future Research.....	149
8.4 Conclusion	150
REFERENCES.....	153
APPENDICES	162

LIST OF FIGURES

Figure 1: Bangladesh Map showing three study area of the research.....	17
Figure 2: Map of Islampur Upazila of Jamalpur District.....	19
Figure 3: Study Site Map of Islampur Upazila of Jamalpur District	20
Figure 4: Map of Tangail Sadar Upazila of Tangail District.....	21
Figure 5: Study Site Map of Tangail Sadar Upazila of Tangail District	22
Figure 6: Map of Dhamrai Upazila of Dhaka District	24
Figure 7: Map of Dhamrai Upazila of Dhaka District	25
Figure 8: Mixed method research design approach	48
Figure 9: Convergent parallel design is a mixed methods research approach	52
Figure 10 : Concurrent Embedded design is a mixed methods research approach	54
Figure 11: Graphic Presentation of the Assets and Capabilities of the Artisans.....	63
Figure 12: Source of the raw materials for bell and brass metal product manufacturing.	65
Figure 13: Market Access and Demand	67
Figure 14: Source of acquiring skill and techniques.....	69
Figure 15: Participate in workshops for working	70
Figure 16: Determination of the Prices for brass and bell metal products.....	71
Figure 17 : Extent to agree with the challenges	73
Figure 18 : Social Vulnerability.	75
Figure 19 : Local artisan preparing and processing the raw materials	76
Figure 20 : Traditional brass and bell-making tools	77
Figure 21: The bell “ghonta” or “ghanti”- Symbolic and Religious.....	78
Figure 22 : Social Vulnerability	80
Figure 23 : The final products feature animal models and the pot	82
Figure 24 : Workers of artisanship with metal and brushes	84
Figure 25 : Community Resilience toward solve the artisans’ challenges.....	88

LIST OF TABLES

Table 1 : Cross Classification of Demographic and Socio-economic characteristics.....	59
Table 2 : Cross-Classification of the livelihood strategies of brass and bell metal artisans	62
Table 3 : The necessary funds to invest in Brass and Bell metal craft in study area	66
Table 4 : Artisanal skills and techniques in which they are proficient.....	68
Table 5 : Confidence to the stability of income from brass and bell metal craft sales	72
Table 6 : Health and well-being vulnerabilities	71
Table 7 : Strategies Adopted by Artisans to Overcome Challenges.....	86

ABSTRACT

THESIS TITLE: LIVELIHOOD STRATEGY AND VULNERABILITY OF BRASS AND BELL METAL ARTISANS IN BANGLADESH

Author: Hossain Mahmud

Supervisor: Prof. Dr. Sk. Tauhidul Islam

Keywords: Brass and Bell Metal Artisans, Livelihood Vulnerability, Handcrafts, Cultural Heritage Preservation, Artisan Adaptive Strategies, Bangladesh Traditional Crafts

Brass and bell metal craftsmanship in Bangladesh is a living tradition reflecting the region's deep cultural and historical heritage. Metallurgical practices in Bengal date back to the Chalcolithic Age (c. 1500 BC), with widespread use of iron emerging around 1000 BC. Copper, its alloys, and iron were the most important materials to be employed in metal work, with silver and gold being utilized on a more limited basis. This craft not only reflects the technological capabilities of the region but also embodies within itself its rich culture. The thesis examines artisans' livelihood strategies and multidimensional vulnerabilities in three historically significant craft clusters: Islampur (Jamalpur), Kagmari (Tangail), and Dhamrai (Dhaka). The aim of the study is to examine how these artisans' communities surmount socio-economic challenges without discarding century-long traditions, and identify key gaps between policy design and practice at the ground level that threaten the longevity of craft. A mixed-methods method employed to study collected data from 210 craftspeople (70 per site) between November 2022 and February 2023 through structured questionnaires, semi-structured interviews, and participant observation. The research objectives included the assessment of demographic profiles, livelihood strategies, assets bases, vulnerability contexts, coping

mechanisms, and policy effectiveness. The argument of the thesis posits that although there are progressive policies, policy implementation failures beget policy-practice gaps and thus economically marginalize artisans while they continue to be culturally cherished. The findings of the study reveal the vulnerabilities: 82% reflect lack of access to capital, 95.7%-90% are men everywhere, and religious composition reflects 79.1%-61.4% Hindu participation consistent with historic patterns of patronage. Income insecurity is felt by 95.71% of Islampur artisans with psychological stress, and educational attainment ranges from 37.1% illiteracy in rural Islampur to 47.1% primary school education in peri-urban Dhamrai, reflecting geographical variation. Occupational hazards still remain untackled, 77.1% without safety equipment and only 2% undergoing safety training. Women remain significantly excluded, and their valuable contribution in polishing and finishing is yet to be recognized and appreciated. In spite of these difficulties, the producers demonstrate adaptive resilience through the development of digital interaction (18.57% application of online marketing in Dhamrai), product diversification (27.14% in Dhamrai), and skill upgradation (14.76% in Kagmari). That only 50.1% of people learn skills through family tradition shows that intergenerational transmission is under threat. Policies are suggested by the study, such as better interministerial coordination, gender-responsive training duties, digital literacy modules, clustering of crafts, facilitated access to financing (at a 5% interest rate as requested by the craftsmen), and environmental sustainability. The study can contribute to longitudinal designs for the measurement of socio-economic transitions, extend geographical scope to other centers of craft (Bogura, Chapainawabganj, Munshiganj etc.), examine women's invisible labour inputs, and examine digital marketplace effects towards protecting traditional craftsmanship.

CHAPTER I: INTRODUCTION

1.1 Introduction

1.2 Statement of the Problem

1.3 Significance of the Study

1.4 Objectives

1.5 Research Questions

1.6 Operational Definition of the Key Concepts

1.6.1 Livelihood Strategy

1.6.2 Vulnerability

1.6.3 Brass and Bell Metal Artisans

1.6.4 Livelihood Assets

1.6.5 Livelihood Outcome

1.7 Scope of the Study

1.8 Construction of the Thesis

1.9 Limitation of the Study

1.10 Area Profile

1.10.1 Islampur (Jamalpur)

1.10.2 Kagmari (Tangail)

1.10.3 Dhamrai, (Dhaka)

1.11 Conclusion

1.1 Introduction

Traditional craft-based livelihoods remain an essential part of South Asia's cultural and economic fabric, sustaining millions of artisans across rural and semi-urban regions. Among these, the brass and bell metal industries occupy a distinctive position for their aesthetic, ritual, and utilitarian value. In South Asia - particularly in India, Bangladesh, Nepal, and Sri Lanka - these crafts not only embody historical continuity and artisanal skill but also contribute to local economies through small-scale production and trade (Deshmukh et al. 2024; Sandhya 2024; Morcom et al. 2025).

In India, the brass and bell metal industries have deep historical roots. Regions such as Assam (Hajo and Sarthebari), Odisha (Kantilo and Balakati), West Bengal (Bankura and Murshidabad), and Kerala (Mannar) have long been recognized as centers of excellence for these crafts (Behera 2017). Traditionally, the craft was organized through hereditary caste-based occupations, where artisanal knowledge was transmitted intergenerationally. Yet, with the expansion of mass-produced goods, declining patronage, and rising input costs, artisans face dwindling income and occupational insecurity (Dasgupta 2025; Mukhopadhyay 2021). The shift from traditional community-based production systems to market-oriented models has also disrupted local social relations and collective resilience mechanisms.

From a broader South Asian perspective, similar trends are evident. In Nepal and Bangladesh, metal craft workers experience declining market competitiveness due to imported substitutes and insufficient institutional support (Reza 1998; Debbarma 2020; Jena 2013). The vulnerabilities of these communities are compounded by structural inequalities, lack of access to credit, and limited technological innovation. Climate-induced disruptions - such as floods or humidity affecting raw materials - further aggravate their livelihood insecurity, particularly in flood-prone areas of Bangladesh and eastern India (Qadir et al. 2025).

In response to these challenges, artisans adopt diverse livelihood strategies, including diversification into wage labor, migration, and small-scale entrepreneurship. Some engage in cooperatives and self-help groups to collectively bargain for fair prices or explore online markets to sustain production. Nonetheless, such adaptive strategies often remain constrained by inadequate policy intervention and the lack of long-term sustainability planning (Deshmukh et al. 2024). Understanding these livelihood strategies and vulnerabilities is thus essential for designing inclusive development frameworks that preserve cultural heritage while promoting economic resilience among brass and bell metal artisans in South Asia.

In its historical narrative, Bangladesh emerges as a mosaic of diverse religions and cultures (Uddin 2006; Mahbub 2024; Islam 2011). Over millennia, a substantial Hindu population once thrived within its borders (Vertovec 2000). Buddhism maintains a resilient foothold, particularly in the hill tracts that adjoin Myanmar (Baral 2025). However, the trajectory shifted dramatically post-1947, when a considerable Hindu exodus to India occurred (Kumar 2023; Mahmood 2024). This pattern repeated after the Bangladesh War of Independence in 1971, further diminishing the Hindu community to a minority, comprising less than 10 percent of the total populace (Hossain 2015; Hashmi 2022; Saikia 2011). Within this multifaceted backdrop, the artisanship of brass and bell metal found its most ardent patrons in the traditional Hindu and to a lesser extent Buddhist communities (Balaswaminathan 2018). This craft provided a medium for these religious and social groups to manifest their imaginings, beliefs, and messages. The creations that emerged spanned a broad spectrum, from utilitarian objects for daily life to intricate religious idols integral to both Hinduism and Buddhism (Banik 2018, Koul 2024).

Brass and Bell metal craft plays a pivotal role in shaping the cultural identity, heritage, and economic landscape of Bangladesh (Mahmud 1999; Singh & Hashmi 2024). Among its rich tapestry of traditional crafts, the brass and bell metal industry stands as a testament to the exquisite skill and creativity of local artisans. This industry has not only preserved ancient crafting techniques but has also sustained the livelihoods of countless families across different regions of the country (Talukder et al. 2025; Bardhan & Bhattacharya

2022). Islampur in Jamalpur, Kagmari in Tangail, and Dhamrai in Dhaka are three distinct geographic regions where the legacy of brass and bell metal craftsmanship has endured through generations. The artistry involved in creating intricate utensils, religious artifacts, and decorative pieces has been a cornerstone of these communities, fostering a unique cultural identity deeply intertwined with their historical roots.

However, the brass and bell metal artisans in these regions face a myriad of challenges that threaten their traditional livelihoods and way of life (Bonotulshi 2017; Singh & Hashmi 2024). As Bangladesh continues to undergo economic, social, and technological transformations, it is crucial to examine how these shifts impact the artisans' livelihood strategies and their vulnerability to changing circumstances (Hoque et al. 2018). This research endeavors to delve into the dynamics of the livelihood strategies adopted by brass and bell metal artisans in Islampur, Kagmari, and Dhamrai, while also assessing their susceptibility to various socio-economic factors. The exploration of livelihood strategies encompasses a comprehensive study of the artisans' resource allocation, production techniques, marketing practices, and coping mechanisms in the face of challenges. Equally important is the examination of the vulnerability of these artisans, which stems from factors such as market fluctuations, technological advancements, changing consumer preferences, and limited access to modern resources.

By conducting an in-depth analysis of these aspects, this research aims to shed light on the complex interplay between tradition, livelihood, and vulnerability in the lives of brass and bell metal artisans. Insights gained from this study will not only contribute to the academic understanding of cultural sustainability and economic dynamics but also provide practical recommendations to policymakers, non-governmental organizations, and local communities on ways to preserve the rich heritage of brass and bell metal craftsmanship while enhancing the artisans' resilience in the face of contemporary challenges. In the subsequent sections, this thesis delves into the historical context of brass and bell metal craftsmanship in Islampur, Kagmari, and Dhamrai, explore the nuances of their livelihood strategies, and analyze the multifaceted vulnerabilities they encounter in an ever-evolving socio-economic landscape. Through this comprehensive investigation, a holistic

understanding of the artisans' lives and their contributions to Bangladesh's cultural and economic fabric will emerge.

1.2 Statement of the Problem

Brass and bell metal craftsmanship is a traditional art work for many rural families. These produce different household and decorative items using intermediary knowledge and skills. However, in recent years these traditional Crafts has become verge into craftsmanship extension. The unlimited use of machine-made and plastic products has reduced the demand for traditional brass and bell metal goods in the market. At the same time, craftsman are facing different difficulties such as the high price of raw materials, lack of financial support, limited access to markets, and insufficient institutional assistance. Because of these difficulties, many craftsmen are struggling to continue their traditional occupation and are forced to look for alternative sources of earning. As a result, their lives and livelihood become more vulnerable and unstable. Despite the cultural and economic importance of this craft, the livelihood condition and vulnerability of brass and bell metal artisans have not been adequately studied. Therefore, it is important to examine the livelihood strategies they adopt and the challenges they face in sustaining their livelihoods.

The study on the livelihood strategies and vulnerability of Brass & Bell Metal artisans in Islampur (Jamalpur), Kagmari (Tangail), and Dhamrai (Savar) of Bangladesh is motivated by the need to comprehensively understand the socio-economic conditions of these artisans and the challenges they encounter. These artisans not only contribute to the preservation of Bangladesh's cultural heritage but also play a pivotal role in local economic systems.

Nowadays, in the chain shops including AARONG contain various fascinating showpieces made of bell and brass metal (Ahmed et al. 2015). Some of them look gorgeous; perhaps they are amazed to look so, while the carefully polished one's spark under the well decorated shops. The situation is quite different in corners of the country where underprivileged metal artisans are fighting to revive their traditions. They live under impoverished life with limited access of health, poor livelihood, lack of nutrition, high prices of raw materials and low demand of supplies. No one has minimum responsibility

to look over metal crafts tradition (Markowitz 1994). Metal artisans haven't got any intensive to acknowledge their making product to the countrymen. Moreover, if government or other NGO is aware then this heritage may get a chance to be flourished. So, this study may keep a great contribution to revive this profession and also the GDP development of Bangladesh (Hasan et al. 2022). However, rapid socio-economic changes, urbanization, and global shifts have introduced new dynamics that may impact their traditional livelihoods and increase their vulnerability to external shocks. Through a focused examination of their livelihood strategies, income sources, and market access, coupled with an assessment of their vulnerabilities to economic and environmental fluctuations, this study aims to provide actionable insights for policymakers, development practitioners, and local communities. By elucidating the interplay between traditional craftsmanship, economic sustainability, and cultural preservation, the study seeks to foster targeted interventions that can empower these artisans and enhance their resilience in the face of evolving challenges.

1.3 Significance of the Study

For many stakeholders and academic disciplines, the study on the livelihood strategies and vulnerabilities of Bangladeshi brass and bell metal artisans is extremely important. It offers important insights into how broader economic, environmental, and policy dynamics are influencing cultural heritage and craftsmanship in addition to illuminating the socioeconomic circumstances of a traditional artisan community. This study provides evidence-based knowledge for policymakers to create focused interventions that can improve artisans' access to markets, social protection, and income stability. The results can direct programs for NGOs and development practitioners that focus on skill development, cultural preservation, and poverty reduction.

From an academic standpoint, the study enhances the overarching discourse on livelihood sustainability, informal economies, and resilience within marginalized occupational groups. It also provides a basis for examining how traditional industries can adjust to

modernization, climate change, and evolving consumer preferences while preserving their cultural identity and artisanal significance.

- Artisan Communities: The difficulties experienced by artists working with brass and bell metal in certain parts of Bangladesh are directly addressed in this study. The craftsmen themselves can gain from customized advice to strengthen their resilience, improve their livelihoods, and preserve their traditional craftsmanship by having a better grasp of their livelihood strategies and vulnerabilities.
- Policy and Decision Makers: The insights of this study can help policymakers create focused policies and interventions by educating them about the particular difficulties these artisan groups confront. The research can aid in the creation of laws that promote traditional crafts, boost regional economies, and offer a framework for sustainable growth.
- Local Economy: Traditional crafts contribute to a region's cultural legacy and economic development. The findings of this study, which look at the vulnerabilities and solutions of brass and bell metal workers, can assist promote traditional crafts as sources of income, enhancing local economies and safeguarding cultural heritage.
- Sustainable Development: The study, which examines how climatic change and economic changes make things less stable, can provide helpful information on sustainable development techniques. It demonstrates the importance of including traditional crafts into long-term development strategies to ensure the health of artisan communities.
- Academic and Research Community: This investigation can contribute to the existing research on traditional crafts, livelihoods, and Bangladesh's vulnerabilities. Researchers and scholars can build on these findings to gain a better understanding of similar artisan communities in different environments.
- NGOs and Development Organizations: Non-governmental organizations and development agencies can use the research outcomes to design targeted programs that offer support, training, and resources to artisan communities. This can facilitate skill enhancement, market access, and social protection measures.

- *Cultural Preservation:* The research has the potential to enhance awareness about the cultural relevance of brass and bell metal crafts, hence encouraging cultural preservation efforts. By studying the obstacles that artisans face, cultural practitioners, heritage groups, and legislators can design educated policies to protect and perpetuate traditional crafts for future generations.
- *Community Empowerment:* The research can empower the artisan communities by providing them with a platform to voice their challenges and aspirations. Craftsmen can actively contribute to the development of solutions that truly address their needs and conditions by participating in the study.
- *International Perspective:* The study's findings can be of interest to international organizations and researchers working in the field of crafts, livelihoods, and vulnerability. It can provide comparative insights into similar artisan communities across different countries.

The importance of this study is its potential for making a positive effect on the lives of brass and bell metal artisans, their local economies, cultural heritage and the field of sustainable development as a whole. It brings to light the various challenges faced by the artisans, while also providing recommendations for improving livelihoods and resilience.

1.4 Objectives

The primary objective of this research is to investigate the Livelihood Strategy and Vulnerabilities of Brass & Bell Metal Artisans in Bangladesh. Along with the primary objective some specific objectives have been calculated -

- To know the Demographic and Socio-economic information of respondents;
 - To assess the livelihood strategies of brass and bell metal artisans in Bangladesh;
 - To understand the assets and capabilities of Brass & Bell Metal Artisans in Bangladesh;
 - To examine the levels of vulnerability experienced by the artisans;
 - To identify the coping mechanisms adopted by the artisans to mitigate the risks;
- and

- To provide recommendations for reducing their vulnerability and enhancing their resilience to external shocks.

1.5 Research Questions

The study seeks to explore the livelihood strategies and vulnerabilities of brass and bell metal artisans in Bangladesh, focusing on their socio-economic context, adaptive practices, and resilience mechanisms. To achieve these goals, the following research questions have been formulated:

1. How do the Demographic and socio-economic profile of brass and bell metal artisans in Bangladesh?
2. How do brass and bell metal artisans in Bangladesh use different strategies to sustain their livelihoods?
3. What assets and capabilities do brass and bell metal artisans in Bangladesh have for their livelihoods?
4. To what extent do socio-economic and environmental factors like demand changes, price fluctuations, and climate impact the vulnerability of artisans?
5. What coping strategies do artisans use to manage risks, and how effective are these in securing their livelihoods?
6. How can interventions enhance resilience and reduce vulnerability among brass and bell metal artisans, considering their context?

1.6 Operational Definition of the Key Concepts

1.6.1 Livelihood Strategy

Livelihood strategy refers to the activities that are done by brass and bell metal artisans to earn for maintaining their household and livelihood support. That are included brass and bell metal related job and other income-generating activities like small business, day labor, firming, or seasonal employment that help them maintain their daily lives and livelihood.

1.6.2 Vulnerability

Vulnerability refers to the degree of hazard and risk that are faced by brass and bell metal artisans in maintaining their family earning. It includes different challenges that hinder their experience like- unstable income, rising prices of raw materials, lack of access to credit, declining market demand for traditional products, health problems, and competition from machine-made materials.

1.6.3 Brass and Bell Metal Artisans

Brass and bell metal artisans are the personnel who are basically involved in producing metal items that are made up of brass and bell. These goods are included as utensils, decorative products, and other household using materials that are generally produced through hand or machineries methods.

1.6.4 Livelihood Assets

Livelihood assets refer to the resources that artisans have or use from the inheritance sources to support their work and sustain their livelihoods. These resources include five (05) capital like Social, Natural, Physical, Financial and human capitals that are used for production, financial resources such as savings or loans, and social support from family, community, or social bonding's.

1.6.5 Livelihood Outcome

Livelihood outcome means to the outputs that artisans achieve through their activities related to brass and bell metal. These results include income generating functions, Standard living strategies, well living security along with education, health, sanitation, and the continuation of their traditional craft as a sustainable source of lives and livelihood.

1.7 Scope of the Study

The scope of this research on investigating the livelihood strategies and vulnerabilities of Brass & Bell Metal Artisans in Islampur (Jamalpur), Dhamrai (Savar), and Kagmari (Tangail) of Bangladesh encompasses various dimensions:

1. **Geographical Scope:** The study focuses on specific geographic regions, namely Jamalpur, Dhamrai (Savar), and Kagmari (Tangail), where brass and bell metal artisans are engaged in traditional craftsmanship. This localized approach allows

for an in-depth understanding of the unique challenges and opportunities within these areas.

2. **Livelihood Strategies:** The research delves into the livelihood strategies employed by brass and bell metal artisans. It aims to identify their income sources, skill sets, market interactions, and the ways in which they sustain their traditional crafts as a means of livelihood.
3. **Vulnerabilities:** The study explores the vulnerabilities faced by these artisans, including socio-economic challenges, environmental risks, market fluctuations, and other external factors that impact their livelihood sustainability.
4. **Coping Mechanisms:** The research investigates the coping mechanisms adopted by artisans to mitigate the risks and challenges they encounter. This involves understanding the strategies they use to adapt to changing circumstances and protect their livelihoods.
5. **Policy and Program Recommendations:** The study concludes by providing recommendations for policy and program interventions to enhance the resilience of brass and bell metal artisans. It suggests ways in which government policies, NGOs, and development actors can support these artisans and mitigate their vulnerabilities.

1.8 Construction of the Thesis

Our research includes a cover letter, an abstract, eight chapters, and a questionnaire and a FGD check list with a consent form part. The cover letter includes a letter of permission request to the supervisor. The entire study procedure is explained in the abstract. The study paper is categorized into seven chapters.

The first chapter is the Introduction part. There are eight subsections in this section. Introduction, statement of the problem, significance of the study, objective, operational definition of the key concepts, theoretical framework, scope of the study, construction of the thesis, and limitations of the study, area profile and conclusion. The introductory section provides a brief explanation of the Brass & Bell Metal Artisans in Bangladesh.

The steps for stating the proper problem are outlined in the problem statement section. In the objective section states many independent outcomes that are significant to the overall objective. The appropriate meaning of an important word used in the study was defined in the operational definition of the key concepts section. The purpose of the study was evaluated in the scope of the study section. Various constraints were faced during this research which were mentioned in the limitations of the study section.

The literature review in the second chapter discussed previous studies regarding our topic. In this chapter literature from various countries of the world were reviewed systematically to know the existing brass & bell metal artisans' scenario. A large portion of these articles that I mentioned above as literature reviews center around the idea of the brass & bell metal artisans' condition in Bangladesh and around the world. A thorough survey of the literature was done to establish consistency between the study findings with other studies.

The conceptual and theoretical framework covered in the third chapter include the introduction, conceptual framework, livelihood assets, strategy, outcomes, vulnerability context, theoretical framework and conclusion. This section describes concept and theory that were used in the study.

The methodology is covered in the fourth chapter. This section has 13 components. Introduction, methodology, study design, study site and area, study period, target population and sample population, study participant selection, inclusion criteria, exclusion criteria, sample size, data collection technique, data analysis quality control and quality assurance, ethical considerations are some of the topics covered. The introductory section outlines the qualitative and quantitative methodologies used to achieve the study's goal. It outlines the study's starting point, direction, and potential outcomes of the research when it is completed. The methodology section discusses the literature studied by the researcher, the language and vocabulary used, the alternative theories and explanations used, and the techniques and kind of analysis used to analyse the data and information obtained.

The study design described the type of research we used, the study site and area described where we conducted the study, the study period described the timeline of the study, the target population was the targeted people in the whole count, and the sample population was those who participated in our study from the target population. The selection of study participants is divided into two sections. Selected participants were stated in the inclusion criteria. Rejected participants were specified in the exclusion criteria. The sample size was estimated in accordance with the study type. The sampling approach outlined how to acquire data from participants. Quality control and quality assurance discussed how to regulate the quality of data and the overall research process. The thesis committee's permission for the study was reviewed under the section on ethical considerations.

The quantitative study findings and analysis are covered in the fifth chapter. There are seven subsection such as introduction, the demographic and socio-economic condition of brass and bell metal artisans, the livelihood strategies of brass and bell metal artisans in Bangladesh, the assets and capabilities of brass & bell metal artisans in Bangladesh, vulnerability assessment, the coping mechanism adopted by artisan to mitigate the risk, conclusion. In this chapter quantitative analysis was done to assess the livelihood strategy and vulnerability of brass and bell metal artisans in Bangladesh. This chapter explores key characteristics, meanings, and implications of the research. Frequency, percentage, mean, and standard deviation of 210 respondents were shown. This chapter offers results and debates in a graphic and table format depending on the subject derived from the research question which included Distribution of socio-demographic status, monthly income, working experience.

The qualitative findings and analysis are covered in the sixth chapter. There are several subsections in this section such as introduction, detailed profile of FGD participants, social status and community perception, residential location, living environment and basic infrastructure, educational access, school experience and social acceptance, occupational dependency, livelihood pattern and income security, daily lifestyle practices and household organization, social interaction, cultural participation and community engagement,

experiences of discrimination, exclusion and social barriers, migration, mobility and livelihood, access to government and NGO services, coping practices and problem minimizing mechanisms, collective responsibility and pathways for artisan upliftment, conclusion. There are two FGD in this dissertation that have been done to identify the problems of the participants.

The summary of the study results and discussion are mentioned in the seventh chapter. There are several subsections in this section such as introduction, summing up the results of the quantitative part, summing up the results of the qualitative part, discussion of the quantitative part, discussion of the qualitative part, and conclusion.

Finally, recommendations and conclusion are mentioned in the eighth chapter. Several recommendations based on the study findings were suggested. The final result was summarized in the conclusion part. All references were cited in APA style in the reference section of the eighth chapter.

1.9 Limitation of the study

While this research aims to contribute valuable insights into the livelihood strategies and vulnerabilities of brass and bell metal artisans in specific regions of Bangladesh, there are certain limitations to be considered:

1. **Sample Size:** The study's scope may limit the number of artisans that can be included in the research. A smaller sample size might not capture the full diversity of experiences and perspectives within the artisan communities.
2. **Regional Specificity:** Focusing on particular regions might not fully represent the experiences of brass and bell metal artisans in other parts of Bangladesh. Findings from these regions may not be directly applicable to other contexts.

3. Temporal Factors: The research captures a snapshot of the artisans' livelihoods and vulnerabilities during a specific time frame. Factors that emerge after the study may not be accounted for.
4. External Factors: Socio-economic and political conditions beyond the control of the researchers could influence the study's findings. Changes in government policies, economic shifts, or unforeseen events may impact the research outcomes.
5. Language and Cultural Barriers: Communication with artisans might be affected by language and cultural barriers, potentially leading to incomplete or misinterpreted information.
6. Self-Reporting Bias: Artisans may provide information based on their perceptions or assumptions, which could introduce bias into the data collected.
7. Qualitative Nature: The study primarily relies on qualitative research methods, which might limit the generalizability of findings. Quantitative data collection methods could provide a more comprehensive statistical analysis.
8. Resource Constraints: The extent of the research's analysis and fieldwork could be influenced by resource limitations, such as time, funding, and access to certain areas.

Despite these limitations, the research contributes valuable insights into the lives of brass and bell metal artisans in specific regions of Bangladesh, shedding light on their livelihood strategies, vulnerabilities, and potential avenues for support.

1.10 Area Profile

According to the *Population and Housing Census 2022* conducted by the Bangladesh Bureau of Statistics (BBS), the three study areas—Islampur in Jamalpur District, Kagmari in Tangail District, and Dhamrai in Dhaka District—show notable demographic, educational, and economic contrasts reflective of their geographical and socio-economic settings. Islampur Upazila, located in the flood-prone northern belt of Jamalpur, has a total population of 319,758 across 83,735 households, spread over an area of 353.31 square kilometers. About 24.6% of its population resides in urban zones, while the majority live in rural or char (riverine) areas. The literacy rate stands at approximately 54.7% (57.8%

male, 51.5% female), indicating a gender gap in education and limited access to higher educational institutions. The economy remains predominantly agriculture-based, supplemented by small-scale trade, fishing, and seasonal wage labor. Islampur is also characterized by a high level of poverty and vulnerability to floods, which significantly affect livelihoods, employment stability, and educational attainment. In contrast, Kagmari, a neighborhood within Tangail Pourashava under Tangail Sadar Upazila, reflects a more urbanized demographic structure as part of a rapidly growing municipal area. Tangail District as a whole has a population of around 4.04 million with an urbanization rate of about 22–23% and a literacy rate of nearly 70%, significantly higher than that of Jamalpur (BBS 2022). Kagmari's proximity to Tangail town has fostered a shift from agrarian livelihoods to non-farm occupations, including trade, services, transport, and especially the renowned handicraft, handloom and textile industry, for which Tangail is famous. Educational infrastructure is stronger, with higher enrollment and completion rates, reflecting the district's long-standing cultural emphasis on education.

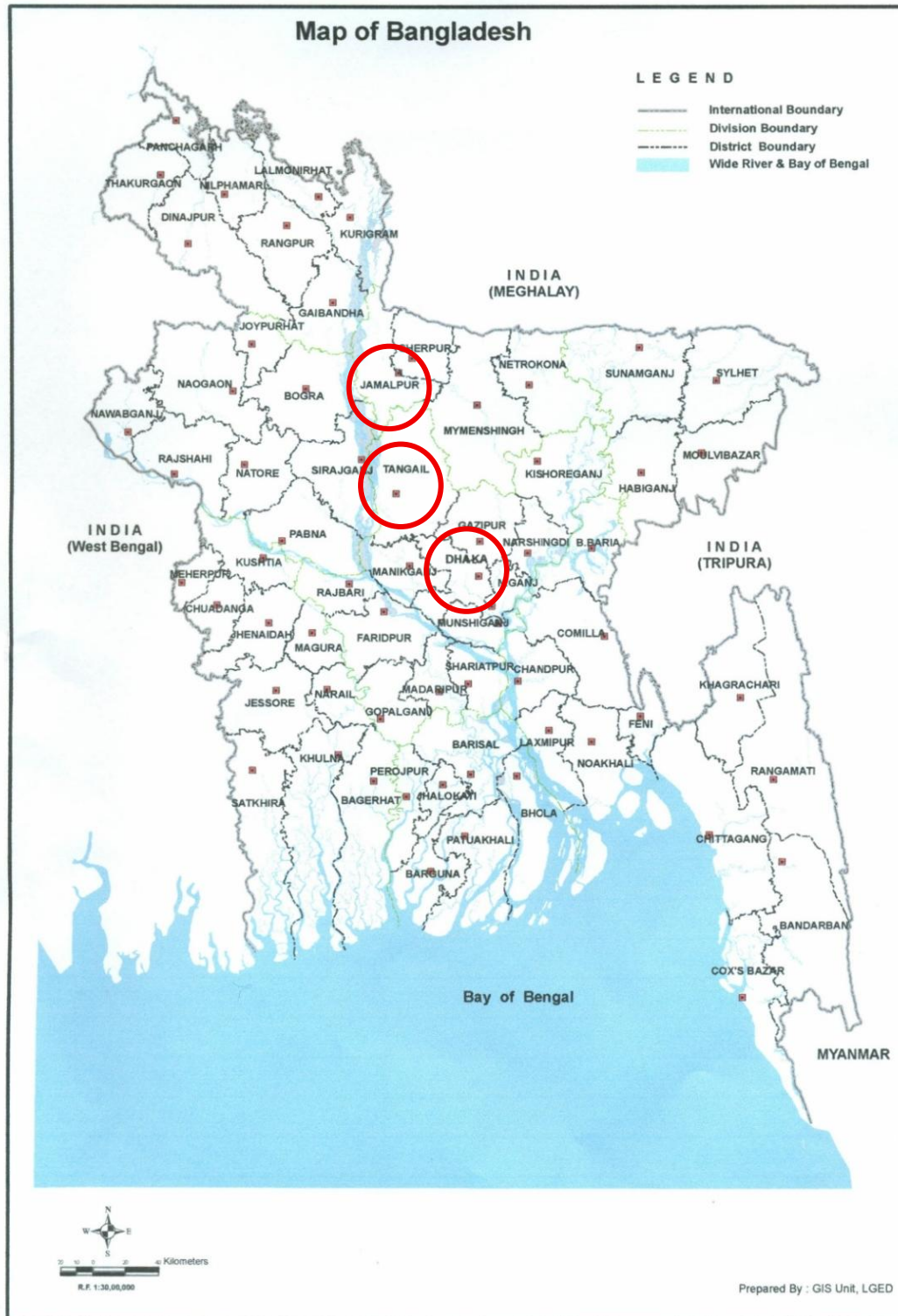


Figure 1: Bangladesh Map showing three study area of the research, Source: LGED, <https://share.google/images/cl59B6VzO9DwtMsVI>

Meanwhile, Dhamrai Upazila, located in Dhaka District and bordering Savar, exhibits the socio-economic dynamics of a peri-urban transition area. Covering 307.41 square kilometers, Dhamrai has a population of approximately 517,135 (2022), with about 125,000 living in urban areas and the rest in rural settings. The population is almost evenly split between males and females. The literacy rate, which was around 50.8% in 2011, has improved considerably as access to educational facilities expanded due to the area's integration with Dhaka's economic corridor (BBS 2022). The local economy has diversified, blending agriculture, small-scale manufacturing, cottage industries, and industrial employment linked to nearby economic hubs in Savar and the capital. Dhamrai's proximity to Dhaka has accelerated migration, employment in factories, and the rise of small enterprises, contributing to a gradual urban transformation. Collectively, these three areas—Islampur, Kagmari, and Dhamrai—illustrate the regional diversity of Bangladesh's socio-economic landscape, where geography, education, and access to urban opportunities shape demographic trends, literacy levels, and livelihood patterns. While Islampur faces environmental vulnerability and low educational attainment, Kagmari benefits from urban opportunities and cultural industries, and Dhamrai demonstrates the transition from rural livelihoods toward industrial and service-oriented employment under Dhaka's growing metropolitan influence.

1.10.1 Islampur (Jamalpur)

Jamalpur District, located in the Mymensingh Division of Bangladesh, is a region of significant historical, cultural, and economic importance, covering an area of 2,115.16 square kilometers with a population of approximately 2,583,984 as per the 2022 census, comprising 1,216,204 males and 1,283,423 females, and an average household size of 3.81 persons; about 26.02% of the population resides in urban areas, primarily in Jamalpur Town, the administrative and economic hub situated on the banks of the Old Brahmaputra River, which itself has a population of 158,873, ranking it as the 31st largest city in Bangladesh (BBS 2022; City Population 2024).

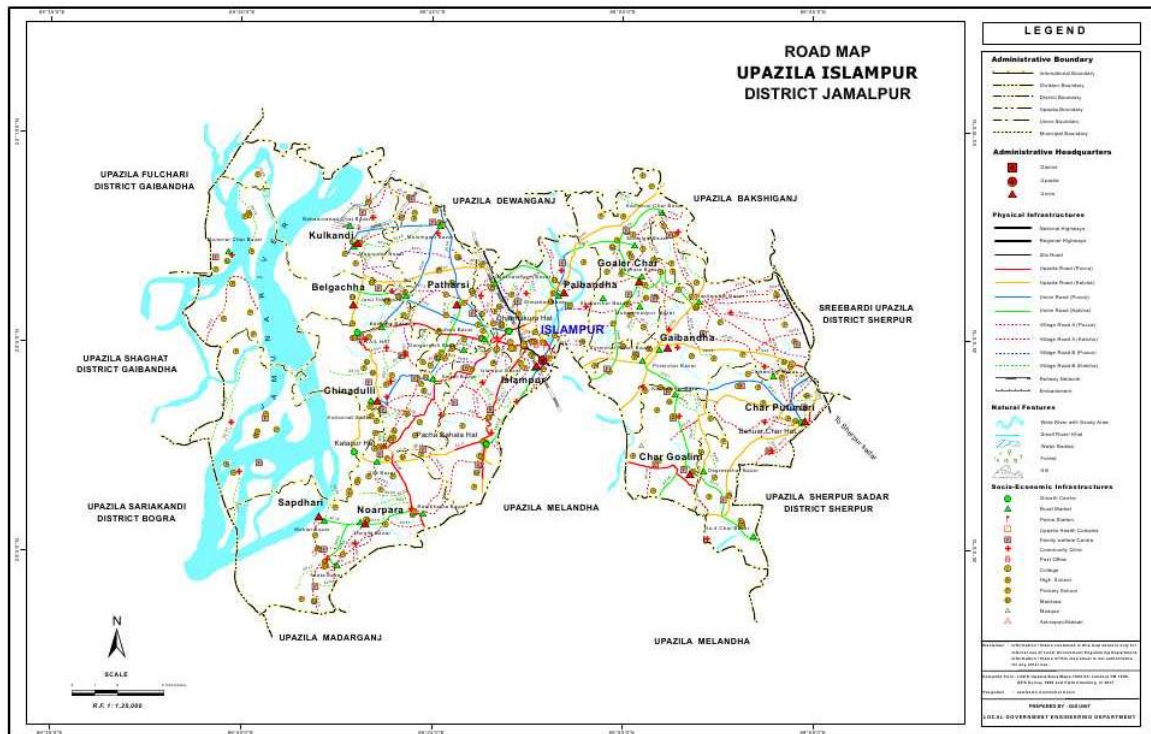


Figure 2: Map of Islampur Upazila of Jamalpur District, Source: LGED Bangladesh, <https://www.thebangladesh.net/dhaka-division/dhaka-district/dhamrai-upazila-dhaka.html>

Administratively, the district is divided into eight upazilas: Jamalpur Sadar, Dewanganj, Bakshiganj, Madarganj, Melandaha, Sarishabari, Islampur, and Jamalpur Town, each encompassing multiple unions, mouzas, and villages, reflecting the district’s layered governance structure. The literacy rate in Jamalpur stands at 61.7%, below the national average of 74.8%, despite the presence of 820 primary schools, 185 secondary schools, 39 colleges, 9 technical colleges, and 5 universities, indicating ongoing educational challenges (BBS 2022). Economically, Jamalpur is predominantly agrarian, with rice, jute, and vegetables forming the backbone of its local economy, supported by fertile land and irrigation infrastructure, though recent initiatives aim to modernize farming techniques and improve market access. The district has a rich historical legacy, from the Fakir-Sannyasi resistance (1772–1790) and the indigo revolt of 1829 to its critical role in the 1971

Liberation War, particularly the Battle of Kamalpur in Bakshiganj upazila, where 220 Pakistani soldiers surrendered to freedom fighters. The population is overwhelmingly Muslim (98.36%), with Hindus constituting 1.59% and other religions 0.05%, reflecting the broader demographic patterns of Bangladesh (BBS 2022; City Population 2024).



Figure 3: Study Site Map of Islampur Upazila of Jamalpur District, Source: Banglapedia, <https://www.thebangladesh.net/dhaka-division/dhaka-district/dhamrai-upazila-dhaka.html>

Jamalpur faces development challenges such as low literacy, limited industrialization, and vulnerability to natural disasters like floods, yet it holds substantial potential for growth through strategic investments in education, infrastructure, disaster preparedness, and agricultural modernization, enabling it to improve livelihoods, preserve its cultural and

historical heritage, and foster sustainable development for its residents. This combination of historical richness, agricultural productivity, and socio-economic challenges makes Jamalpur a district of both enduring cultural significance and evolving opportunities, highlighting the need for integrated planning and community-focused interventions to unlock its full potential while safeguarding its unique identity.

1.10.2 Kagmari (Tangail)

Tangail District, located in the central part of Bangladesh under the Dhaka Division, is one of the most densely populated and economically vibrant districts of the nation with a population of 4,037,608 based on the 2022 census, consisting of 1,945,826 males, 2,091,490 females, and 292 Hijra individuals. The district covers an area of approximately 3,414.28 square kilometers, making the population density approximately 1,183 persons per square kilometer (BBS 2022).

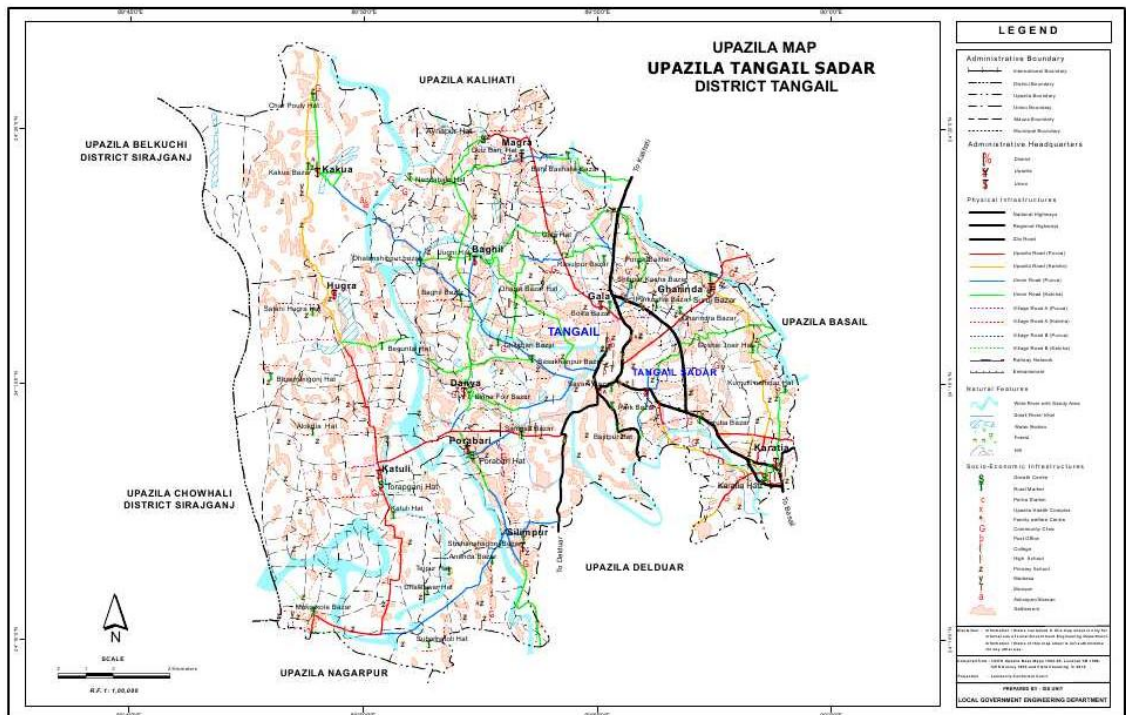
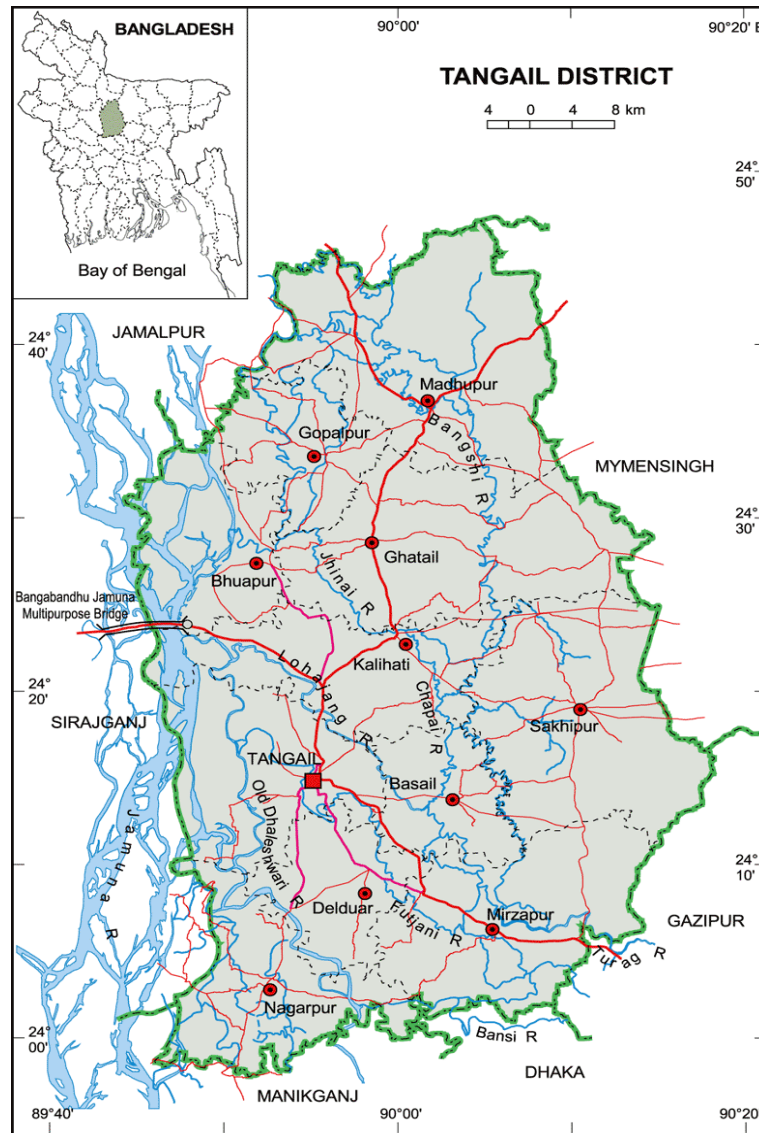


Figure 4: Map of Tangail Sadar Upazila of Tangail District, Source: LGED Bangladesh, <https://www.thebangladesh.net/dhaka-division/tangail-district/tangail-sadar-upazila-tangail.html>

The demographics indicate that the population comprises about 1,083,650 individuals aged 0–14 years, 2,652,092 as the working age group of 15–64 years, and 301,574 aged 65 years and above, showing the relatively young and economically active population. Out of the total population, 912,501 citizens live in urban areas, and 3,125,107 in rural areas, showing the predominantly agrarian nature of Tangail despite the growing trend of urbanization (BBS 2022; City Population 2024).



Administratively, Tangail is divided into different upazilas including Tangail Sadar. **Figure 5: Study Site Map of Tangail Sadar Upazila of Tangail District, Source:** Banglapedia, <https://www.thebangladesh.net/dhaka-division/tangail-district/tangail-sadar-upazila-tangail.html>

Tangail Sadar is the most populated upazila with about 601,227 people, followed by Mirzapur with about 474,658 (BBS 2022).

The region is renowned for its cultural heritage and handloom products, particularly the world-famous Tangail Saree, a prominent local identity and livelihood source for thousands of weavers working in handlooms. The economy of Tangail is primarily agricultural, weaving, and small industries with paddy, jute, sugarcane, and vegetables being the major agriculture products. Additionally, the proximity of Tangail to Dhaka enhances its position as a commercial hub, connecting rural economies and urban markets. Furthermore, the district occupies an important place in the socio-political history of Bangladesh due to its contribution to the social and political movements in the country along with cultural heritage. The district is also religiously diverse with most of its population identifying as Muslim (3,762,538) followed by Hindu (257,343), Christian (15,191), Buddhist (264), and others (1,980) (BBS 2022; City Population 2024). Despite ongoing development, Tangail is affected by river erosion, episodic flooding, and infrastructure limitations, which affect agricultural productivity as well as rural livelihood.

Nevertheless, ongoing government and grassroots initiatives endeavor to improve education, healthcare, and infrastructure to facilitate sustainable development. Due to its blend of tradition and transformation, Tangail is a resilient district that bridges Bangladesh's rural culture with its emerging new economy, symbolizing resilience, craftsmanship, and socio-economic promise.

1.10.3 Dhamrai (Dhaka)

Dhamrai Upazila, located about 39–40 kilometers northwest of Dhaka, is one of the most dynamic peri-urban zones of central Bangladesh, blending a rich cultural past with evolving economic transformation. Covering an area of 307.41 square kilometers, Dhamrai is bordered by Mirzapur and Kaliakair to the north, Singair to the south, Savar to the east, and Manikganj Sadar, Saturia, and Nagarpur to the west (BBS 2022; City Population 2024).

The landscape, shaped by the fertile alluvial soils of the Bongshi and Dhaleshwari rivers, supports both agricultural and artisanal livelihoods.

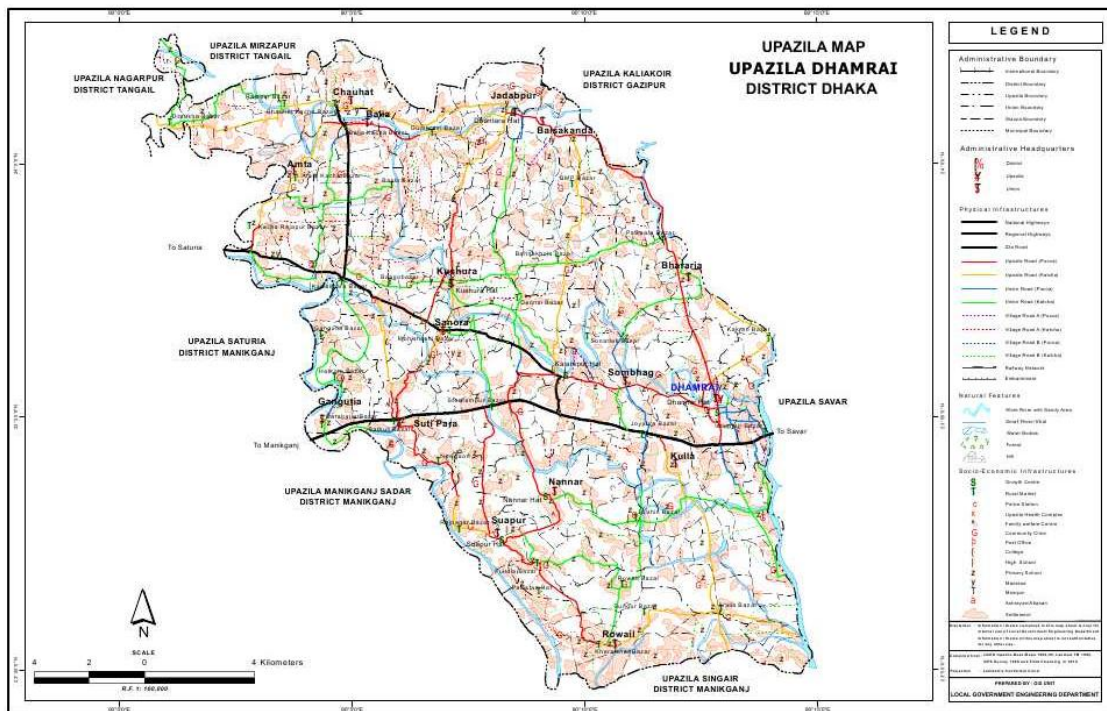


Figure 6: Map of Dhamrai Upazila of Dhaka District. Map Courtesy: LGED Bangladesh, <https://www.thebangladesh.net/dhaka-division/dhaka-district/dhamrai-upazila-dhaka.html>

According to the 2022 census, Dhamrai has a population of 517,135, with 259,261 males, 257,856 females, and 18 individuals identifying as hijra (third gender). The majority of residents (467,378) are Muslim, followed by Hindus (49,292), and small Buddhist (303) and Christian (135) minorities, reflecting a long history of religious coexistence. The population structure is youthful, with about 131,000 children aged 0–14, 351,819 in the working-age group (15–64), and 34,298 elderly citizens (City Population 2024). Administratively, the upazila comprises several unions such as Kulla, Sutipara, Sombhag, and Kuchura, each supporting vibrant local communities.

Historically, Dhamrai flourished during the Pala Dynasty (800–1100 AD) as a hub of Buddhist and Hindu settlements, leaving behind a legacy of ancient temples and shrines that still mark the region. Economically, Dhamrai is famous as the heart of Bangladesh’s

traditional metal craft industry, where artisans—predominantly from the Hindu community—have practiced lost-wax (cire perdue) and hollow casting for centuries to produce intricate bronze, brass, and bell metal objects.



Figure 7: Map of Dhamrai Upazila of Dhaka District. Map, Source: LGED Bangladesh, <https://www.thebangladesh.net/dhaka-division/dhaka-district/dhamrai-upazila-dhaka.html>

Once known also for muslin, jamdani weaving, and pottery, Dhamrai's traditional industries now face serious challenges from rising raw material costs, reduced demand, and competition from mass production.

While a decade ago around a thousand families were engaged in brass and bell metal crafting, today only about a hundred remain active. Despite these challenges, Dhamrai continues to balance its artisanal heritage with modern socio-economic diversification, marked by growing small-scale industries, urban expansion, and increased literacy and employment opportunities driven by its proximity to the capital.

1.11 Conclusion

This chapter lays the foundation of the study by outlining the historical, cultural, and socio-economic significance of brass and bell metal crafts in Bangladesh, particularly in Islampur (Jamalpur), Kagmari (Tangail), and Dhamrai (Savar). The chapter highlights how these traditional crafts are vital to cultural identity preservation and local economic sustenance, while also laying bare the compound vulnerabilities of the artisans in a rapidly changing environment. The chapter contextualizes the threats—among them market fluctuations, competition from factory-made goods, absence of institutional support, and climate-related disruptions—to the artisans' livelihood and cultural viability. Within the Community Resilience Framework, the study brings to light the adaptive capacities of artisans that continue to innovate and sustain their crafts through diversification, cooperative organization, and intergenerational transmission of skills. The chapter further presents the research objectives, theoretical underpinnings, and significance, providing a roadmap to understanding the complex nexus between tradition and change within artisanal communities. It also identifies the study's scope and limitations, admitting geographical, sample size, and resource availability constraints while claiming broader academic and policy relevance for the research. Finally, this chapter provides the groundwork for a more detailed exploration of livelihood strategies and vulnerabilities of brass and bell metal artisans with the aim of producing knowledge that informs cultural preservation, economic sustainability, and sustainable development. The chapter reiterates the need for synergistic collaboration between policymakers, researchers, and communities in safeguarding this valuable cultural heritage and promoting artisans' socio-economic development.

CHAPTER II: LITERATURE REVIEW

2.1 Introduction

2.2 Brass and Bell Metal Artisans: Historical Overview

2.3 Socio-Cultural Significance of Brass and Bell Metal Artistry

2.4 Livelihood Strategies and Diversification

2.5 Livelihood Strategies and Vulnerabilities in Craft Communities

2.6 Government Policies and Support for Artisanal Crafts

2.7 Conclusion

2.1 Introduction

A literature review is an essential component of academic research that synthesizes and critically evaluates existing studies related to a specific area of inquiry. It serves as a foundation for understanding what has already been explored and what gaps remain in the field. According to Hart (2018), a literature review involves identifying, analyzing, and interpreting relevant scholarly works to establish the context and significance of the current research problem. Rather than providing a mere summary of previous studies, it offers an analytical overview that highlights patterns, themes, debates, and methodological trends within the chosen area (Snyder 2019).

A focused approach is crucial when conducting a literature review. Instead of attempting to include an extensive array of unrelated studies, researchers should select a limited number of works that are directly relevant to their research topic (Boote & Beile 2005). This focus ensures depth of analysis and helps in drawing meaningful connections between existing findings and the researcher's own study. By evaluating prior research, a literature review allows scholars to assess the strengths and weaknesses of earlier works, recognize inconsistencies or contradictions, and build upon the established knowledge base (Webster & Watson 2002).

Furthermore, literature reviews play a key role in identifying authoritative scholars and influential studies within a field. Recognizing credible and experienced researchers helps guide one's understanding of the theoretical and methodological frameworks commonly used (Ridley, 2012). They also help identify recurring questions, emerging issues, and methodological approaches that have shaped the evolution of the topic over time. In doing so, a literature review not only contextualizes the present research but also contributes to refining its objectives, theoretical foundations, and research design (Rowley & Slack 2004).

2.2 Brass and Bell Metal Artisans: Historical Overview

Brass and bell metal artisans have a rich and long tradition that stretches back centuries. Their craft has made a profound impact on cultural, artistic, and economic life in many societies and regions of the world. Metalworking in modern Bangladesh is divided into six general categories: ironwork, brass work, copper or bronze work, goldsmithing, silversmithing, and jewelry making. The workers who work with iron are possibly known as “*Kamars*” and those who work with brass or copper work are possibly known as “*Kansyakar*” or “*Kansar*” and artisans who create articles of gold and silver are possibly called “*Sonkars*” or “*Roupkars*.” Artisans who perform ornamental or decorative work on any type of metal are possibly called “*Nakshi*” or “*Khodai*” artisans (Mahmud, 2015). Brass and bell metalwork is reported to have first appeared during the Bronze Age of early cultures.

During the Mughal period from 1576 to 1757 AD, these metal crafts were guided to produce things for the rulers and nobles as well as for the common people, both for religious and warfare purposes (Prothom Alo 2019). But in the British Period, war items were substituted with domestic items such as plates, glasses, pitchers, prayer bells, pots, spoons, buckets, pans, lamps, idols of gods and goddesses, musical items, etc. Today these metal products are being made for high-class citizens, the middle class, and lower-middle-class families. Although religious and secular requirements are constant, products have been further diversified in use like statues, animals, boats, and many other display pieces to meet different requirements (Banglapedia 2012). The Bell and Brass is not actually the identical alloy. The bell metal used is a high-tin alloy of copper and tin with a roughly 4:1 ratio of copper to tin (75% copper, 25% tin). Brass is a copper metal alloy and zinc in a more or less 4:1 ratio of zinc to copper (20% zinc, 80% copper) (George, 1988). It is difficult to say precisely when this industry developed in the land of present Bangladesh. However, it can be assumed that this industry had developed its roots in Bangladesh land since the time of the Chandra dynasty of Bengal. Kansaru is the community that makes bell and brass articles or items of domestic use. The community people are also called *Thatari* (Kaler Kantha, 2021).

In his book *A Statistical Account of Bengal*, W. W. Hunter (1877) mentioned that there were 489 artisans in Dhaka district. Apart from Dhamrai and Shimulia of Dhaka district, many brass and bell metal artisans were established in Kagmari of Tangail, Islampur of Jamalpur, Shibbari of Bagura, Chapainawabganj, and Lauhjong of Munshiganj districts (Hunter, 1877). Over the years, utensils made of fiber, stainless steel, aluminum, ceramics and melamine products replaced the use of brass and bell metal at home (Prothom Alo, 2019). These metals were initially used to craft various war equipment like shields, swords, maces, arrows, etc. This craft spread across different regions including Dhaka's Dhamrai and Shimuliya, Tangail's Kagmari, Jamalpur's Islampur, Bogura's Shibbari, and Chapainawabganj, among others. The craft of brassware from Dariyabad village in Islampur Upazila of Jamalpur district was once famous worldwide. The Birmingham Handicraft Exhibition was organized in England in 1942, where Jagatchandra Karmakar, a brass artisan from Jamalpur, posthumously received a gold medal as an exceptional artist. The first setback for this craft came in 1947, followed by another blow in 1971. However, from 1978 to 1990, production and sales were generally good. Starting from 1990, the situation began to deteriorate. The space for brass and bell metal was gradually taken over by fiber, stainless steel, aluminum, and ceramic products. Presently, despite being overlooked, the brass and bell metal craft of Dhamrai continues to attract enthusiasts from various countries. This region's history of brass and bell metal embossing is intertwined with the era of the Mughal reign. In the later period, during the 1970s, Mosarrat Hossain and Sakhi Gopal Banik Mill revived the brass and bell metal embossing, which continues to this day (Jaki, December 31, 2019). From then on, the demand for brassware increased day by day. However, over time, the fame of the craft has faded away, and it has lost its position in the world of art (The Daily Shangram, 2022).

2.3 Socio-Cultural Significance of Brass and Bell Metal Artistry

Brass and bell metal artistry holds significant socio-cultural importance in Bangladesh. It goes beyond mere craftsmanship, embodying a cultural heritage that reflects traditions, aesthetics, and historical connections. In many societies, brass and bell metal objects are deeply intertwined with rituals, ceremonies, and daily life. These items are often used as

offerings in religious practices and as symbols of status and prestige during social events like weddings and festivals. The craft not only showcases intricate designs and skilled craftsmanship but also serves as a cultural bridge between generations, preserving ancestral techniques and stories. Additionally, the art form fosters a sense of community identity, with specific regions often becoming synonymous with their distinct brass and bell metal products. The preservation and continuation of this artistry contribute to the richness of cultural diversity and heritage in societies where it thrives. Once upon a time, items made of brass and bell metal were highly valued as the finest gifts at various social events, including weddings, among different communities, including Muslims. The history of this craft spans over a thousand years. There were skilled categories like brass artisans and brass merchants in village cooperatives. During the Pathan, Mughal, and British rule, brass artisans thrived and attained significant stature. The craft evolved and prospered. In the town of Kagmari in Tangail, those engaged with brass, copper, and bronze crafts were identified as descendants of skilled artisans. The term “*kansyakar*” or “*kansyabanik*” is not associated with brass crafting. However, the legacy of Kagmari’s brass crafting still remains. The prominence of copper crafting remains in Barail of Tangail and Kagmari. Apart from the mentioned items in Barail and Kagmari, other items like brass bells, victory drums, copper trays, and decorative flower vases are also crafted (Anupom, October 14, 2017).

Maharana, Naik, and Mohanta (2025) provides an in-depth anthropological analysis of Kansari community’s ancient brass craft in Bellaguntha, Odisha, with its cultural symbolism, traditional craft, and socio-economic issues. It situates this metalwork in India’s larger metallurgical history, distinguishing it from other metal crafts like Dhokra by its focus on versatile brass artefacts like snakes and fish that are prized for ritual and aesthetic ends. Drawing on ethnographic fieldwork, the authors reveal a gendered division of labour—men fashioning and soldering, women polishing and finishing—and finds the craft’s historical roots as going back to the Bhanja dynasty. The authors identify such problems as rising raw material cost, lack of institutional support, decline in artisan numbers, and youth migration, yet refer to recent initiatives such as GI tag registration and women’s self-help groups to revive the tradition.

2.4 Livelihood Strategies and Diversification

Several studies have examined the livelihood strategies of brass and bell metal artisans in Bangladesh. Ahmed et al. (2019) found that the majority of brass and bell metal artisans in Bangladesh engage in multiple livelihood activities, with craft being the primary source of income. However, due to the seasonality of their craft, many artisans engage in wage labor during the lean season to supplement their income. The study also found that many artisans engage in agriculture, mainly to provide for their household needs. Another study conducted by Hossain (2017) found that the livelihood strategies of brass and bell metal artisans in Bangladesh are shaped by various social and cultural factors.

The study found that artisans often belong to a particular community, with distinct social and cultural practices that shape their livelihood strategies. For example, some artisans engage in the craft as a family tradition, with skills passed down from generation to generation. Alam et al. (2019) aimed to understand the livelihood strategies of artisans engaged in brass and bell metal crafts in Bangladesh. The study found that the artisans primarily relied on income from craft production, agriculture, and livestock to support their families. The study also reported that the artisans faced challenges such as low income, lack of access to credit, and inadequate training, which made it difficult for them to improve their livelihoods. Another study by Hossain and Salam (2020) reported that the artisans in the brass and bell metal craft sector in Bangladesh relied on a combination of craft production, non-farm activities, and agricultural activities to support their livelihoods. Village handicrafts of the rural areas were popular in urban midpoints. There were societies in urban areas and were governed by their own rules Desai (2002).

Metal crafting in Bangladesh is an ancient tradition with the earliest entity, having been made in the first century BC at Wari-bateswar, Narshingdi based on traditional understanding and the inherent skills of the artisans. The metal crafts in Bangladesh categorized into six major groups: ironwork, bell-metalwork, brasswork, goldwork, silverwork, and ornamental work. The metalworkers who are engaged in ironwork are known as *kamars* (blacksmiths); those who do either bell-metalwork or brasswork are

generally called *kansyakars* or *kansaris* (bell-metalsmiths and brass-smiths); *svarnakars* (goldsmiths and silversmiths) are those who make substances in gold and silver; and those who do ornamental work in any metal are termed either *nakxikarigars* (designers) or *khudaikars* (Banglapedia 2012).

Banerjee and Moni (2024), highlight the balance between economic progress, environmental protection, and socio-cultural heritage. From secondary data obtained from UNWTO, WTTC, and government publications, the authors argue that sustainable tourism presents an integrated solution to the harmful impacts of mass tourism—such as ecological deterioration, loss of culture, and social inequality. The author details the significant international and national plans, such as India's Swadesh Darshan 2.0, PRASAD, and Sustainable Tourism Criteria for India (STCI), all of which contribute towards supporting local involvement, local entrepreneurship, and sustainability. Drawing on well-developed theories like Butler's (1980) concept of carrying capacity and Scheyvens' (1999) model of community empowerment, the study is consistent with the triple-bottom-line approach advocated by Elkington (1997). It also integrates perspectives of Gössling et al. (2009) and McKercher and du Cros (2002) to demonstrate the cultural and environmental dimensions of tourism sustainability. Although the author is integrating diverse literature, its contribution is more descriptive in nature as it excludes an analytical framework or a critical evaluation of solving existing issues such as post-pandemic recovery, carbon-neutral tourism, and digital sustainability. Author also argues this limitation, the study provides valuable insights into India's policy-driven sustainable tourism environment and accentuates the significance of education, grassroots empowerment, and sustainable tourist conduct. As such, Banerjee and Moni's work serve as a significant conceptual reference for understanding sustainable tourism as both a developmental strategy and a conservation model, offering a foundation for further empirical research on the implementation and effectiveness of sustainability practices in the global tourism sector.

2.5 Livelihood Strategies and Vulnerabilities in Craft Communities

Bhargab Barman (2021) tries to show the role of the bell metal industries in the socio-economic condition of the Indian society (Barman, 2021). The Bell and Brass industry are presently incorporate with several problems, like rising prices of the raw materials, lack of training facilities, inadequate working capital, inappropriate marketing strategy, low wages of the hard-working artisans and above all, competitive global market (KIST, 2015). K. K. Mahato et al. continued a case study of brass metal manufacturing industry in Assam; they exposed the way to increase the productivity and quality of brass metal handicraft products with tool design intervention (K. K. Mahato et al. 2019).

Mukherjee focusses on ‘Investigating the Technological Aspects of Bell Metal with Special Reference to West Bengal, in this research revealed the crafting as a process and craftsmen giving a shape to that process. Manufacturing processes and their challenges have been inspected through an ethnographic survey to understand how a craft develops the identity of a group of artisans and how a craft loses its identity with the craftsmen (Mukherjee 2018). P K Sarkar and S K Kakoty showed the manufacturing process practiced in different parts for production of bell metal products, properties of bell metal product particularly microstructure, hardness and fracture strength of products manufactured was critically reviewed in Sarthebari, Assam, India (Sarkar & Kakoty 2021).

An investigation of occupational injury was undertaken in a metal smelting industry to examine the occurrence and nature of occupational accidents where analysis of occupational injury accounts was carried out (Saha, et al. 2007). Author investigates some high-risk groups e.g. young workers, less-experienced workers, obese workers, workers having smoking/ chewing habits etc., who need special devotion so far as workplace safety is concerned. Authors examine the livelihood strategy and vulnerabilities of Brass & Bell Metal artisans in Bangladesh.

A study conducted by Rahman et al. (2020) found that the lack of access to credit and capital is a significant constraint for brass and bell metal artisans in Bangladesh. The study

found that many artisans are unable to expand their businesses due to a lack of financial resources, limiting their ability to invest in new equipment or materials. Islam et al. (2020) aimed to identify the vulnerability of artisans involved in brass and bell metal craft in Bangladesh.

The study reported that artisans faced a range of vulnerabilities, including limited access to credit, lack of market access, and inadequate training. Another study by Rahman et al. (2020) reported that artisans in the brass and bell metal craft sector in Bangladesh faced a range of vulnerabilities, including low income, lack of access to market information, and inadequate infrastructure. The literature review shows that the livelihood strategies and vulnerability of brass and bell metal artisans in Bangladesh have been the subject of several studies. It is expected that the findings of this study will provide an effective and detailed analysis about above matter of things, and it will be able to achieve the information cavity that we have revealed in the literature.

2.6 Government Policies and Support for Artisanal Crafts

In the realm of Bangladesh's culture and heritage, there exists a deep connection with cottage industries that produce brass and bell-metal utensils. Localities such as Dhamrai and Savar in Dhaka, as well as Nawabgonj, Islampur in Jamalpur, Rangpur, Tangail, and Shariatpur have garnered renowned for their clusters of family-centric workshops engaged in these crafts. The count stands at 390 units engaged in the creation of brass and bell-metal, employing around two thousand exceptionally skilled artisans in Bangladesh. Their combined efforts yield brass and bell-metal wares that contribute to an annual value of 333.7 million taka.

In addition to the Bangladesh Small and Cottage Industries Corporation (BSCIC), various entities including the Ministry of Youth and Sports, the Department of Youth Development, the Ministries of Women and Social Welfare, as well as multiple Non-Governmental Organizations (NGOs), extend financial, technical, and marketing assistance to these skilled artisans. This collaborative effort seeks to elevate the cottage industry. Notably, in

1989, the government took a significant step by establishing a specialized bank named Basic Bank Limited to provide support to this sector (Reza 2015).

Sehnem et al. (2020) argue that the handicraft (crafts) sector, which is prone to be informal, artisanal, and socially oriented, lacks a robust model of sustainability and competitiveness advocated by public policies; using Strategic Decision Theory (SDT), they assert that stakeholder cooperation is a robust antecedent of effective management practices, which in turn facilitate sustainable competitive outcomes. Author finds that cooperation positively affects market strategies, and that “management improvement strategies” positively affect market strategies and sustainable competitive models; but no indications of direct effects of cooperation on management strategies, nor of market strategies having a direct effect on sustainable competitive models.

On the other hand, author quotes limitations as reliance on self-assessment measures from craftsmen (potentially vulnerable to perception bias), a relatively small and localized sample (low generalizability), possible problems of model specification (e.g., group bias of factors), and failure to test some of the proposed paths, which authors attribute to low levels of awareness, education, or knowledge system among craftsmen.

2.7 Conclusion

In this chapter unveils the literature review the deep historical, socio-cultural, and economic significance of brass and bell metal craft in Bangladesh and South Asia. Existing research establishes that these traditional crafts are not only means of aesthetic expression but also bear the community’s identity, heritage, and livelihood in the form of artisanal communities. The technological consistency of bell and brass metalwork from the Mughal to the modern era is a manifestation of adaptive continuity under unforeseen social, economic, and technological change. However, despite its cultural importance, studies point to various vulnerabilities facing artisans that include weak institutional support, rising

unemployment costs for raw materials, credit refusal, restrictive access to markets, and reduced intergenerational knowledge diffusion. While government and non-governmental organizations have instituted mechanisms of support, their impact is limited. In addition, there are still lacunae in exploring sustainable methods uniting economic resilience and heritage conservation. There have been extremely few analyses of digital marketing adaptations, recovery of the industry from a critical perspective. This chapter represents the inclusive and participatory method of safeguarding brass and bell metal craftsmanship—merging cultural sustainability with socio-economic empowerment—in order to ensure ongoing success of this living heritage under current development paradigms.

CHAPTER III: CONCEPTUAL AND THEORETICAL FRAMEWORK

3.1 Introduction

3.2 Conceptual Framework

3.2.1 Livelihood Assets

3.2.2 Livelihood Strategies

3.2.3 Vulnerability Context

3.2.4 Livelihood Outcomes

3.3 Theoretical Framework

3.4 Conclusion

3.1 Introduction

A theoretical and conceptual framework is essential for understanding the relationships between the key variables examined in a research study. In this research, the livelihood conditions of brass and bell metal artisans in Bangladesh are examined through the interaction of livelihood resources, livelihood strategies, vulnerability context, and livelihood outcomes. These elements together explain how artisan households sustain their traditional craft activities despite economic, social, and structural constraints.

The brass and bell metal sector represents a traditional artisanal industry that has long contributed to the cultural heritage and local economy of Bangladesh. However, the livelihood of artisans engaged in this craft has become increasingly vulnerable due to several factors such as industrial competition, declining market demand, limited institutional support, and dependence on intermediaries.

To analyze these dynamics, this study adopts a conceptual and theoretical framework derived from the Sustainable Livelihood Approach and social vulnerability perspectives. These frameworks allow the study to examine how livelihood assets shape livelihood strategies, how artisans respond to vulnerability contexts, and how these processes influence livelihood outcomes.

The framework therefore provides an analytical structure for understanding the socio-economic conditions, occupational patterns, and adaptive mechanisms of brass and bell metal artisans in the selected study areas of Islampur (Jamalpur), Kagmari (Tangail), and Dhamrai (Savar).

3.2 Conceptual Framework

The conceptual framework of this research explains the relationship between livelihood assets, livelihood strategies, vulnerability context, and livelihood outcomes among brass and bell metal artisans. These elements interact with each other to determine the sustainability of artisan livelihoods.

In the context of this study, artisan households rely on various livelihood resources to maintain their craft-based activities. These resources influence the strategies adopted by artisans, which in turn determine their economic stability and overall livelihood conditions.

At the same time, artisans operate within a broader vulnerability context that affects their ability to sustain traditional craft occupations.

Thus, the conceptual framework of this study can be summarized as a process where livelihood assets influence livelihood strategies, which operate within a vulnerability context and ultimately shape livelihood outcomes.

3.2.1 Livelihood Assets

Livelihood assets refer to the resources that artisans possess or access in order to sustain their livelihoods. The study identifies five types of capital that support the livelihood activities of brass and bell metal artisans: human capital, social capital, natural capital, physical capital, and financial capital.

Human capital includes the traditional knowledge, skills, and craftsmanship that artisans acquire through family traditions and long-term practice. In many cases, the production techniques of brass and bell metal items are transmitted across generations, making artisanal knowledge an important livelihood resource.

Social capital refers to the networks of relationships that artisans maintain within their families, communities, and occupational groups. These networks often provide informal financial support, labour assistance, and information related to production and marketing activities.

Natural capital includes access to raw materials and environmental resources required for brass and bell metal production. The availability and cost of raw materials significantly influence the production capacity of artisans.

Physical capital consists of tools, workshops, and production equipment used in craft production. Many artisans rely on traditional tools and manually operated equipment, which limits productivity and technological advancement in the sector.

Financial capital includes savings, loans, and other financial resources that support production activities. Due to limited access to formal financial institutions, many artisans depend on informal credit sources or intermediaries for financial support.

3.2.2 Livelihood Strategies

Livelihood strategies refer to the combination of activities undertaken by artisan households to sustain their livelihoods. The findings of the study indicate that brass and bell metal artisans adopt both primary craft-based activities and supplementary income-generating activities.

The primary livelihood strategy involves the production, repair, and polishing of brass and bell metal items. These activities constitute the main occupation for many artisan households, particularly in the traditional craft centers of Kagmari and Dhamrai.

However, due to declining profitability and market uncertainties, many artisans also engage in additional income-generating activities. These include farming, small business activities, day labour, and transportation-related work such as rickshaw or van driving. Such diversification of livelihood activities helps artisan households cope with economic instability and fluctuating demand for traditional metal products.

3.2.3 Vulnerability Context

Artisans operate within a vulnerability context that significantly influences their livelihood opportunities and outcomes. The study identifies several forms of vulnerability affecting brass and bell metal artisans.

One major source of vulnerability is market competition from industrially manufactured goods, which are often cheaper and more widely available than traditional handcrafted products. This competition reduces the demand for artisan products and affects the income stability of craft households.

Another source of vulnerability arises from the dependence on intermediaries or middlemen, who often control the supply of raw materials and the marketing of finished products. This reduces the bargaining power of artisans and limits their profit margins.

Health risks also contribute to livelihood vulnerability. The production of brass and bell metal items involves exposure to heat, smoke, and sharp tools, which can cause burns, cuts, and respiratory problems. Limited access to healthcare services further intensifies this vulnerability.

Environmental factors such as flooding and environmental degradation also affect artisan settlements and production activities, particularly in rural areas.

3.2.4 Livelihood Outcomes

Livelihood outcomes represent the results achieved through livelihood strategies. These outcomes include income generation, improvement in living conditions, and the sustainability of traditional craft occupations.

The study findings indicate that although artisans possess valuable traditional skills, their income levels remain relatively low and unstable. Monthly income varies significantly across study areas, with many artisans earning within a modest income range.

Housing conditions, sanitation facilities, and access to social services also vary among artisan households. In some areas, artisans experience relatively better living conditions, while in others economic hardship remains a persistent challenge.

The long-term sustainability of the brass and bell metal craft also depends on the ability of artisan households to maintain production activities and transfer artisanal skills to future generations.

3.3 Theoretical Framework

I used community resilience framework in my research. The concept of *resilience* is widely used to describe the ability of individuals or communities to adapt to and manage adversity. It encompasses the capacity to respond to disturbances, recover from them, and continue to function effectively in changing environments (Lv et al. 2024). Broadly, resilience can be understood through different dimensions, such as **psychological resilience** (the individual's mental capacity to cope with stress), **emotional resilience** (the ability to regulate emotions during crises), **physical resilience** (the capacity to maintain or restore physical well-being), and **community resilience** (the collective ability of a community to adapt, recover, and sustain its well-being in the face of disruptions) (Butler et al. 2006; Southwick et al. 2014).

Among these, *Community Resilience Theory* provides a comprehensive framework for examining how groups and societies withstand and recover from socio-economic and environmental challenges. It highlights the dynamic interplay between social networks, economic stability, institutional structures, and environmental conditions. In the context of

Bangladesh's brass and bell metal artisans, this framework is particularly relevant because their livelihoods are deeply embedded in traditional knowledge, localized economies, and social relationships that shape their responses to adversity.

Community resilience emphasizes not only the capacity to survive shocks but also the ability to adapt and transform in response to long-term changes. For the brass and bell metal artisans, vulnerabilities arise from multiple sources - declining demand for handcrafted products, competition from machine-made goods, fluctuating raw material prices, and environmental factors such as climate-induced disruptions. Despite these challenges, many artisans demonstrate resilience through adaptive strategies, including diversifying their income sources, developing new designs to meet modern market preferences, forming cooperatives or community-based associations, and preserving their craft traditions through intergenerational learning. The framework also draws attention to the role of collective social capital—trust, cooperation, and mutual support—which enables communities to mobilize resources and sustain livelihoods even under stress. Economic resilience, on the other hand, depends on the artisans' access to financial resources, market opportunities, and institutional support. Environmental resilience emerges through their ability to adapt production methods in response to ecological shifts, such as changes in metal availability or climate-related disruptions.

Therefore, Community Resilience Theory serves as an analytical lens to understand how these artisans negotiate vulnerabilities, employ adaptive strategies, and strive for sustainable livelihood outcomes. It not only highlights their struggles but also recognizes their agency and innovation in maintaining socio-economic stability within an evolving and often adverse context. This theory emphasizes the interplay of social, economic, and environmental factors that influence a community's ability to withstand shocks, Adaptive Strategies, and recover from challenges or Resilience Outcomes.

Framework Components	Research Component
Exposures/ Shocks	Fluctuating Metal Prices, Changing Customer Preferences, Environmental Changes.
Adaptive Strategies	Skill Diversification, Seeking Alternative Markets, Forming Cooperatives, Utilizing Different Metals If Certain Materials Become Scarce.
Resilience Outcomes	• Are the artisans able to maintain their livelihoods despite challenges? • Do they experience positive changes, setbacks, or a mix of both?

3.4 Conclusion

The conceptual and theoretical framework provides an integrated understanding of the livelihood strategies and vulnerabilities experienced by brass and bell metal artisans in Bangladesh. By combining the Sustainable Livelihood Framework with social vulnerability perspectives, the study explains how livelihood assets, livelihood strategies, and vulnerability contexts interact to shape the livelihood outcomes of artisan households.

This framework serves as the analytical foundation for interpreting the empirical findings of the study and for understanding the broader socio-economic challenges faced by traditional craft communities in Bangladesh.

CHAPTER IV: METHODOLOGY

4.1 Introduction

4.2 Methodology

4.3 Study Design

4.4 Study Site and Area

4.5 Study Period

4.6 Target Population and Sample Population

4.7 Selection of Study Participant

4.7.1 Inclusion Criteria

4.7.2 Exclusion Criteria

4.8 Sample Size

4.9 Sampling Technique

4.10 Quality Control and Quality Assurance

4.11 Data Management and Analysis

4.12 Ethical Considerations

4.13 Conclusion

4.1 Introduction

Processing interactions and interviews with participants in various settings often involves challenges, requiring keen attention and sensitivity. At the highest level of integrity and ethical consideration in this research, data was collected from the research field. Confidentiality and privacy of participants to the letter were maintained, and informed consent was obtained prior to engaging with them. Data were collected in three different locations—Dhaka, Jamalpur, and Tangail—among local residents who were involved in brass and bell-making communities and their direct social circles. The study placed particular emphasis on linguistic differences, noting the characteristic style and usage of Dhaka speakers. Similarly, within Jamalpur and Tangail, which were geographically proximate to one another, regional linguistic styles and nuanced dialectic differences were noted and recorded through interviews. These results provided deeper understanding of how language was employed to portray cultural identity, local tradition, and social interaction between the brass and bell makers. Through a focus on both verbal and non-verbal talk, the study yielded a nuanced understanding of the participants' perspectives with respect for deference and cultural sensitivity.

4.2 Methodology

A mixed-methods research design is being used in this study to comprehensively explore how brass and bell metal artisans in Bangladesh experience their livelihoods and face vulnerabilities. The reason for the use of a mixed-methods approach in this study is that the mixed-methods design provides an opportunity to collect quantitative measures regarding the socio-economic conditions of artisans while also collecting qualitative data regarding their lived experiences, cultural traditions, and adaptive methods for coping with their environment. Due to the complex, multi-faceted nature of artisanal lifestyles due to the interconnectedness of economic, social, cultural, and physical aspects, using only one type of methodology would not adequately capture the entire picture of the research issue. The study uses a convergent parallel mixed-methods design. Quantitative and qualitative data are collected at the same time, are analysed separately, and then combined in the

analysis stage. Using this design allows for triangulation, which enhances the validity of the findings, and enables a deeper understanding of how statistical trends relate to the narratives of the artisans and what actually happens in their day-to-day lives. The quantitative aspect of the study is focused on creating an understanding of the demographic characteristics, income patterns, livelihood strategies, asset ownership, vulnerability indicators, and coping mechanisms used by the artisans. Structured questionnaires were administered to generate measurable data that could be systematically analyzed and compared across the three study sites—Islampur (Jamalpur), Kagmari (Tangail), and Dhamrai (Dhaka). The qualitative component complements this by exploring artisans' perceptions, experiences, and meanings attached to their craft, livelihood choices, and vulnerabilities. Semi-structured interviews and participant observation were used to document traditional knowledge systems, intergenerational skill transmission, gendered roles in production, market interactions, and responses to socio-economic and environmental changes. This qualitative inquiry provides contextual depth that cannot be captured through survey data alone.

The research design is also cross-sectional in nature, as data were collected within a defined time frame (November 2022 to February 2023), allowing for a snapshot analysis of current livelihood conditions and vulnerabilities. While the design does not measure change over time, it provides a robust baseline for future longitudinal or comparative studies.

Guided by the Community Resilience Framework, the research design links empirical data to theoretical constructs such as exposure to shocks, adaptive strategies, and resilience outcomes. Integrating quantitative indicators (e.g., income stability, access to credit, education levels) with qualitative evidence (e.g., narratives of adaptation, collective action, and cultural continuity), the study systematically examines how artisans navigate vulnerability while sustaining traditional craftsmanship.

4.3 Study Design

This study employs the use of a mixed-methods research design, in which quantitative and qualitative approaches are integrated to provide an enriching appreciation of the research problem. The mixed-methods research enables the collection, analysis, and interpretation of numerical and narrative data within the same framework, either simultaneously or sequentially, depending on the character and aim of the research. As indicated in Figure 3.1, this approach facilitates a more balanced inquiry through the combination of various perspectives and types of data (Kawar et al., 2024; Matović & Ovesni, 2023; Creswell & Plano Clark, 2018; Taheri & Okumus, 2024).

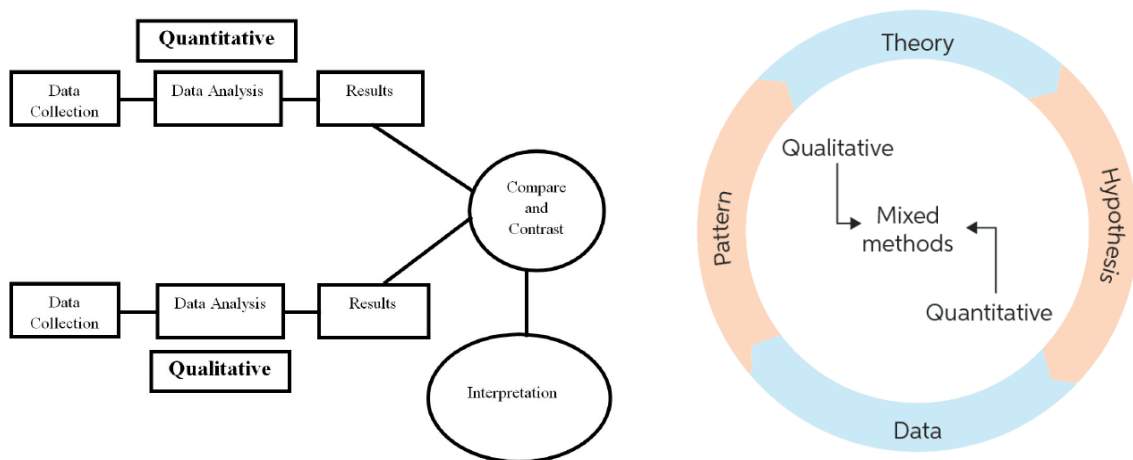


Figure 8: Mixed method research design approach (Adopted from Creswell, 2018)

Through combining qualitative and quantitative approaches, mixed-methods research seeks to draw on the strengths of each design and compensate for their individual weaknesses (Sharma et al. 2023; Taherdoost 2022). The quantitative aspect contributes objectivity, measurement, and statistical affirmations while the qualitative aspect contributes richness, contextual meaning, and interpretive comprehension of human behavior and social processes. All these methods put together enable the study to explore not just patterns and trends that can be measured but also the meaning, experiences, and motivations behind them.

This combination method therefore enhances the validity, credibility, and richness of the findings. Triangulation of data sources and cross-validation of results are facilitated, providing a richer and more accurate insight into the research questions than would otherwise be the case through the use of a single-method design.

4.4 Study Site and Area

The primary data for the study were collected from an equally distributed across three different areas—Islampur of Jamalpur District, Kagmari of Tangail District, and Dhamrai of Dhaka District.

4.5 Study Period

This study was conducted for a period of three month from November 2022 to February 2023.

4.6 Target Population and Sample Population

Targeted population were brass and bell metal artisan in Bangladesh.

4.7 Selection of Study Participant

4.7.1 Inclusion Criteria

1. Respondents must be brass and bell metal artisan in Bangladesh.

4.7.2 Exclusion Criteria

1. Who are not working in brass and bell metal industry?
2. brass and bell metal artisan in Bangladesh were not willing to participate.

4.8 Sample Size

The total sample size of 210 volunteers ($n = 210$) was determined using a systematic statistical equation considering population size, tolerance error margin, and a 95% confidence level. Random selection from all three centers ensured coverage from diverse socio-economic strata, different age groups, and different occupational groups, making the research results more reliable and generalizable.

The sample size has been determined by the following formula

$$\text{Sample size, } n = (z^2 pq)/d^2$$

Where

n = required sample size,

z = the standard normal deviate, usually set at 1.96 which corresponds to 95% confidence Interval (CI).

p = Estimated percent of the

d =degree of accuracy

Therefore,

Sample size (n) = 210

Total, sample size was = 210

Qualitative sample size: FGD 1 and FGD 2

Total= 2 FGD

4.9 Sampling Technique

Between November 2022 and February 2023. The data collected from 210 respondents were divided into three groups based on cluster sampling. To have a structured and representative process, the participants were allocated across three distinct groups with a cluster sampling approach. The clusters were constructed using distinctive features relevant to the study, allowing the systematic evaluation of responses within heterogeneous sub-

populations. This methodology allowed for obtaining diverse views while ensuring statistical relevance, thus enabling the results to reliably reflect variance in the target population.

Then the data randomly collected from each cluster using following data collection techniques.

1. In-depth Interviews: Conduct one-on-one interviews with brass and bell metal artisans to gather qualitative insights into their livelihood strategies, challenges, and coping mechanisms.
2. Surveys: Develop structured surveys to collect quantitative data on socio-demographic information, income sources, assets, and vulnerabilities. Administer the surveys to a representative sample of artisans in the selected regions.
3. Observations: Engage in participant observation by spending time within the artisan communities to understand their daily activities, interactions, and working conditions.
4. Focus Group Discussion (FGD): Two FGDs were conducted with the participation of members from the non-artisans, such as neighbors, local leaders, and employers. Each FGD included 8–10 participants and was led by the core objectives of the study. The questioners avoided leading, sensitive, and judgmental questions to maintain neutrality and stick to ethical considerations during the discussions. Data were collected in a non-eloquent and respectful manner so that the participants did not encounter any difficulties in articulating their perceptions, experiences, and attitudes related to the Dalit community. These FGDs captured external perspectives and general community attitudes, which were very useful in comparative analysis and enhanced the strength of the study through data triangulation. Qualitatively, the approach is depth oriented, interpretative, and contextual understanding-based. Therefore, it suits best for the structural and lived realities of the artisan community in rural Bangladesh.
5. Document Review: Analyze relevant documents such as government policies, NGO reports, and market data to contextualize the artisans' experiences within larger socio-economic trends.

4.10 Quality Control and Quality Assurance

Data were solely collected by the researcher, for any inconsistency the data was eliminated from the study. All collected data were analysed by the researcher under the guidance of the supervisor.

4.11 Data Management and Analysis

The data analysis and presentation for this research involves a comprehensive approach that combines both qualitative and quantitative methodologies to unravel the intricate dynamics of the livelihood strategies and vulnerabilities of Brass & Bell Metal Artisans in Jamalpur, Dhamrai (Savar), and Kagmari (Tangail) of Bangladesh.

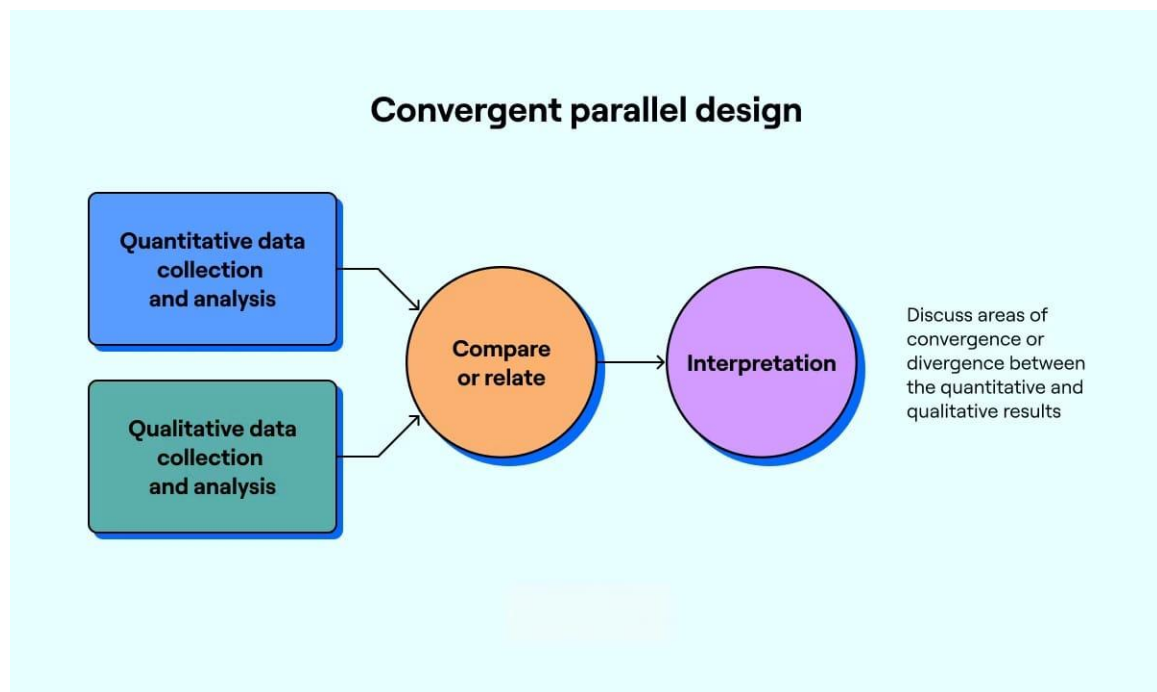


Figure 9: Convergent parallel design is a mixed methods research approach, Source: maze, <https://maze.co/blog/mixed-methods-research/>

The convergent parallel design constitutes a core strategy within mixed methods research, characterized by the concurrent collection and independent analysis of quantitative and qualitative data. This design seeks to integrate the strengths of both methodological traditions to produce a more comprehensive and nuanced understanding of the research phenomenon. Quantitative data, typically derived from structured surveys or statistical measurements, are analyzed to reveal generalizable patterns, while qualitative data, often collected through interviews or observations, provide in-depth contextual and interpretive insights. Following independent analyses, the two data strands are merged during the interpretation phase to identify areas of convergence, divergence, and complementarity. Such integration facilitates a multidimensional perspective, enabling the corroboration and enrichment of findings through methodological triangulation. As Taheri & Okumus, 2024 and Creswell and Plano Clark (2018) assert, the convergent parallel design is particularly advantageous when the research objective is to compare and validate results from different methodological sources or to elaborate on quantitative outcomes through qualitative explanations. Nevertheless, this design demands methodological rigor, as the process of aligning and interpreting disparate datasets can present analytical and interpretive challenges.

Qualitative data collected through in-depth interviews and observation will undergo thematic analysis to identify recurring patterns, emerging themes, and nuanced narratives that reflect the artisans' experiences.

Concurrently, quantitative data from surveys will be subjected to rigorous statistical analysis to quantify socio-demographic characteristics, income sources, and vulnerability levels.

The integration of these findings will enable a holistic understanding of the challenges and opportunities faced by these artisans. The results will be presented through a cross table, visual aids such as graphs and charts, and direct quotations from participants.

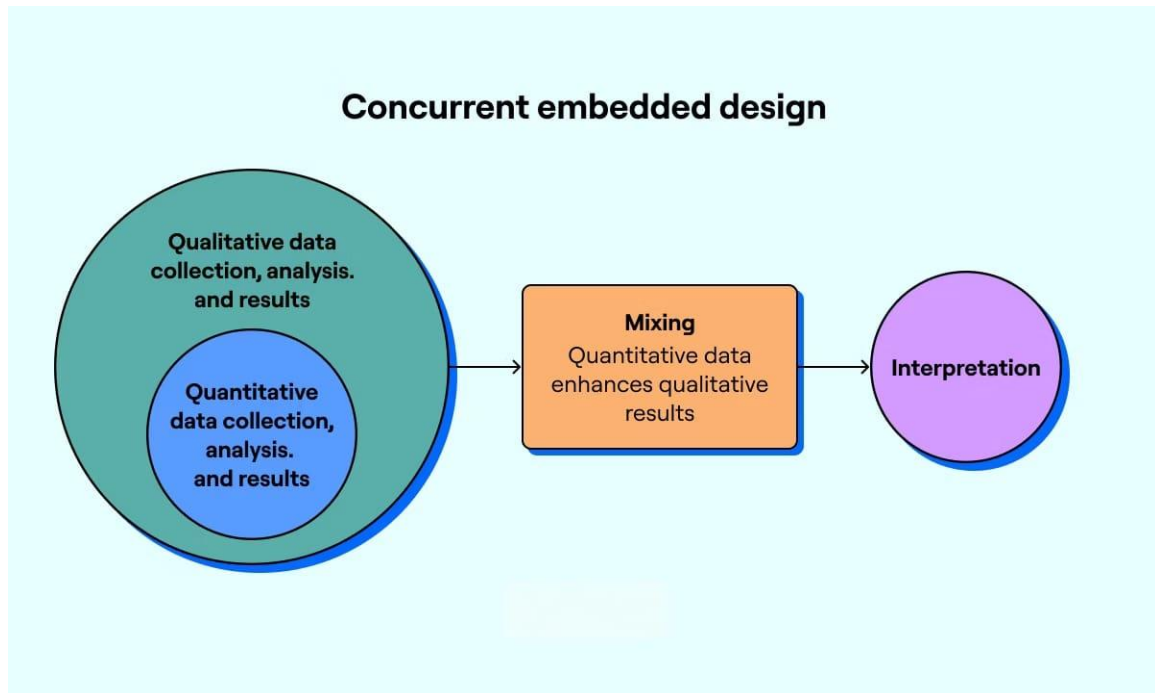


Figure 10 : *Concurrent Embedded design is a mixed methods research approach,*

Source: maze, <https://maze.co/blog/mixed-methods-research/>

The concurrent embedded design is a mixed methods research design in which one data type (either quantitative or qualitative) is emphasized in significance while the other data type takes a supplementary or supportive role, both are collected simultaneously in a single phase of the research. The concurrent embedded design supports researchers to ask different kinds of questions in one study by embedding another method with the other as a secondary data type. The data considered the primary method, guides the overall research, while the embedded method has a “complementary” role that often serves to explain or extend the primary findings. For instance, the primary method, quantitative data, essentially embeds qualitative interviews to capture the participants’ perspectives and context for the numerical result or vice versa. Taheri & Okumus, (2024) have noted, a concurrent embedded design is a particularly useful option when the researchers want a deeper understanding of a phenomenon from multiple dimensions, without prolonging the data collection period. On the other hand, application of the concurrent embedded needs to be attended to carefully in the integration phase of the data. The reasons for utilizing both methods of data, including the different purposes and degrees of weight of the qualitative

and quantitative data, can complicate the data integration or comparative ways. Nonetheless, if it is a good fit for the purposes of quantitative and qualitative methodology is has the advantage of offering methodological breadth while also being efficient in timing and resources.

This multi-dimensional approach to data analysis and presentation aims to provide a comprehensive and nuanced depiction of the livelihood strategies and vulnerabilities of Brass & Bell Metal Artisans in the selected regions of Bangladesh.

4.12 Ethical Considerations

The following terms were followed during research-

1. *Informed Consent*: Before conducting research, informed consent from all participants, explaining the purpose, procedures, risks, and benefits of the study were maintained. Participants understood their rights and had the freedom to withdraw at any point.
2. *Confidentiality*: During research, it was ensured that participants' identities and sensitive information will be kept confidential. Pseudonyms were used in this research and avoid sharing any data that could lead to the identification of individuals.
3. *Voluntary Participation*: Participation in the research were entirely voluntary. Participants did not face any pressure or coercion to take part in interviews, surveys, or discussions.
4. *Respect for Culture*: Respect local customs, traditions, and norms during interactions with artisan communities. Adapt research methods to fit the cultural context.
5. *Beneficence*: Ensure that the research benefits the participants and the communities in some way. Share the research findings with the participants and provide recommendations for enhancing their livelihoods.
6. *Researcher Bias*: Acknowledge and manage any potential biases that could influence the research process or data interpretation.

7. *Approval*: Ethical approval was taken from Bell metal association of outlying areas before conducting the research, especially if human subjects are involved.
8. *Feedback and Accountability*: Establish a mechanism for participants to provide feedback on the research findings, ensuring that their voices are heard and respected.

4.13 Conclusion

This chapter has outlined the research methods that were implemented to investigate the socio-economic status, cultural practices, and livelihood strategies of Brass and Bell Metal artisans in Bangladesh. A mixed-method research design was adopted and thus incorporated both qualitative and quantitative methods to complement the richness and credibility of understanding about the research problem. Three study locations were identified and the data were accordingly collected, using a systematic sampling technique, from Dhaka, Jamalpur, and Tangail using surveys, in-depth interviews and participant observations, and by reviewing documents. An overall convergent parallel design, as well as a concurrent embedded design, facilitated simultaneous data collection and proceeded to analyze the data independent of one another while adding depth to the study's interpretive understanding, instrument validity and analytical rigor. The triangulation study borrowed from the sources of data to add validity and reliability. Furthermore, ethical practices were also adhered to, such as the assurance of informed consent, confidentiality, voluntary participation and support for cultural sensitivity. Overall, this methodological framework ensured the veracity and rectitude of data collection and analysis, and thus it provided a strong and empirical basis in the interpretation of artisans' lived experiences, struggles, and adaptive strategies. This chapter presented the analysis and discussion of the data collected from the methodological framework outlined.

CHAPTER V: QUANTITATIVE FINDINGS AND ANALYSIS

5.1 Introduction

5.2 The Demographic and Socio-economic condition of brass and bell metal artisans

5.3 The livelihood strategies of brass and bell metal artisans in Bangladesh

5.4 The Assets and Capabilities of Brass & Bell Metal Artisans in Bangladesh

5.5 Vulnerability Assessment

5.6 The Coping Mechanism adopted by Artisan to mitigate the risk

5.7 Conclusion

5.1 Introduction

In this chapter, I have illustrated a thorough analysis and interpretation of the research findings relating to brass and bell metal artisans, especially in the peripheral districts of Islampur (Jamalpur), Kagmari (Tangail), and Dhamrai (Dhaka/Savar). This chapter is intended to systematically explore the socio-economic conditions, livelihood strategies, vulnerabilities, coping strategies, and community resilience among these craft communities.

The discussion will begin with a substantive examination of the artisans' demographic and socio-economic condition - that is demographic data about artisans (gender, religion, age, educational status), artisanal monthly income, accommodation, water and sanitation quality in the three study areas. The chapter will then go on to discuss artisans' livelihood strategies as well as the artisans' primary livelihood roles (manufacturing, repairing, selling, exporting), and the alternative occupations in which artisans engage. The discussion will then move into an evaluation of artisans' assets and capabilities, looking at aspects such as artisans' perceived access to raw materials, skills, social networks, capital, and machinery; sourcing patterns of raw materials will also be discussed. The chapter will also include an account of financial investment involved in the craft, market demand for change, and skills and techniques were being practiced by artisans.

An important element of this chapter consists of the Vulnerability Assessment which serves to analyze the diverse risks artisans are impacted by, such as lack of finances, reaching their markets, and competing with mass-produced products. The assessment also outlines the possible social vulnerabilities (e.g., lack of access to services, social exclusion, and lessening identity) and health and well-being vulnerabilities (e.g., risks of working conditions, absence of healthcare and health and safety protocols, and stress or anxiety associated with irregular income). The chapter concludes with identifying some of these coping mechanisms artisans implement to mitigate risks, including product diversification, skills training, online selling and marketing, and requesting government assistance. The final segment is a consideration of who artisans may collaborate with as part of alternative

resilience approaches related to resilience to risks in a community's members, including the community project, community advocacy, and in working with others.

5.2 The Demographic and Socio-economic condition of brass and bell metal artisans

Table 1 : Cross Classification of Demographic and Socio-economic characteristics

<i>Variables</i>	<i>Frequency with Percentage (N=210)</i>		
	<i>Islampur (70) (Jamalpur)</i>	<i>Kagmari (70) (Tangail)</i>	<i>Dhamrai (70) (Dhaka)</i>
<i>Gender</i>			
Male	67 (95.7%)	65 (92.9%)	63 (90.0%)
Female	03 (4.3%)	05 (7.1%)	07 (10.0%)
<i>Religion</i>			
Islam	17 (25.8%)	23 (32.8%)	19 (27.1%)
Hindus	53 (79.1%)	47 (66.7%)	43 (61.4%)
Christian	00 (00.0%)	00 (00.0%)	08 (11.4%)
<i>Age</i>			
Below 18	00 (00.0%)	02 (2.9%)	09 (12.9%)
18-28	03 (4.3%)	17 (24.3%)	11 (15.7%)
29-39	37 (52.9%)	23 (32.9%)	18 (25.7%)
40-50	16 (22.9%)	20 (28.9%)	22 (31.4%)
51-60	14 (20.0%)	08 (11.4%)	07 (10.0%)
Above 60	00 (00.0%)	00 (00.0%)	03 (4.3%)
<i>Educational Status</i>			
Illiterate	26 (37.1%)	13 (18.6%)	07 (10.0%)
Sign Only	31 (44.3%)	31 (44.3%)	17 (24.3%)
Primary Education	09 (12.9%)	22 (31.4%)	33 (47.1%)
Secondary Education	03 (4.3%)	04 (5.7%)	09 (12.9%)
Higher Secondary	01 (1.4%)	00 (00.0%)	04 (5.7%)
<i>Monthly Income</i>			

Below 10, 000	15 (21.43%)	14 (20.00%)	04 (5.71%)
11,000- 20, 000	32 (45.71%)	21 (20.00%)	36 (51.43%)
21,000-30,000	18 (25.71%)	27 (38.57%)	17 (24.29%)
Above 30,000	05 (7.14%)	08 (11.43%)	13 (18.57%)
<i>Accommodations</i>			
Straw-shed/ Muddy/Teen	44 (62.86%)	29 (41.43%)	19 (27.14%)
Half-building	23 (32.86%)	34 (48.57%)	37 (52.86%)
Building	03 (4.295)	07 (10.00%)	14 (20.00%)
<i>Quality of water and Sanitation</i>			
Excellent	02 (2.86%)	12 (17.14%)	18 (25.71%)
Good	27 (38.57%)	32 (45.71%)	19 (27.14%)
Fair	15 (21.43%)	16 (22.86%)	16 (22.86%)
Poor	16 (22.86%)	04 (5.71%)	12 (17.14%)
Very poor	10 (14.29%)	06 (8.57%)	05 (7.14%)

The provided research data presents a cross-classification of demographic characteristics across three locations: Islampur (Jamalpur), Kagmari (Tangail), and Dhamrai (Dhaka). The variables analyzed include gender, religion, age, and educational status. Table 4.1 shows that, the majority of the population in three outlying districts involved in bell and brass metal are male. The majority of the workers involved in this profession are Hindus. In Dhaka's Dhamrai, only 11.4% of the population identified as Christians. However, no Christians were found to be associated with this profession in Jamalpur or Tangail. The population involved in bell and brass metal consists of 25.8% Muslims and 79.1% Hindus in Islampur, 32.8% Muslims and 66.7% Hindus in Kagmari, and 27.1% Muslims, 61.4% Hindus in Dhamrai, Dhaka.

In Islampur (Jamalpur), there are no individuals below 18 or above 60 years old. The highest frequency is in the 29-39 age group (37 individuals). In Kagmari (Tangail), There are no individuals below 18 or above 60 years old. The highest frequency is in the 29-39 age group (23 individuals). There are no individuals below 18 or above 60 years old. The highest frequency is in the 29-39 age group (33 individuals) in Dhamrai (Dhaka). The majority of the population is either illiterate or can only sign. There are smaller proportions

of individuals with primary education, secondary education, and higher secondary education. However, in Dhamrai, the majority of the respondents have a higher level of educational qualification, with a significant portion having primary education (33 individuals or 47.1%), which is contrary to the other districts. In terms of monthly income, Kagmari district has the highest percentage of individuals earning between 11,000 and 20,000 (38.57%), followed by Islampur with 45.71% falling within the same income range. Dhamrai has the highest proportion of individuals earning above 30,000 (51.43%). However, in the below 10,000 income brackets, Islampur has the highest percentage (21.43%). Regarding accommodations, Kagmari has the highest percentage of individuals living in half-buildings (52.86%), followed by Dhamrai (41.43%). Straw-shed/muddy/teen accommodations are more prevalent in Islampur (62.86%), compared to the other districts. Examining the quality of water and sanitation, Islampur has the highest percentage of individuals with good water quality (45.71%), while Kagmari has the highest percentage of individuals with fair water quality (22.86%). Dhamrai has a higher proportion of individuals with excellent water quality (25.71%), compared to the other districts.

5.3 The livelihood strategies of brass and bell metal artisans in Bangladesh

Table 2 : Cross-Classification of the livelihood strategies of brass and bell metal artisans

Variables	Islampur	Kagmari	Dhamrai
<i>Primary livelihood strategies of brass and bell metal artisan</i>			
Owner of Means of Production	10	18	18
Manufacturing products	34	30	29
Repair, polish and maintenance services	12	10	10
Coloring and Designing	09	07	08
Selling and participating in craft exhibitions	04	03	03
Exporting products to international markets	01	02	02
<i>Alternative Occupation</i>			
Day Labor	14 (20%)	03 (18%)	07 (10%)
Farming	18 (26%)	13 (26%)	10 (15%)
Rickshaw/Van Puller	06 (9%)	22 (31%)	18 (26%)
I do what work I find	23 (33%)	17 (24%)	33 (47%)
None	09 (13%)	15 (21%)	02 (3%)
Working Days in a Week			
7 days in a week	00 (0%)	00 (0%)	07 (10%)
6 days in a week	00 (0%)	00 (0%)	05 (7.15%)
5 days in a week	00 (0%)	11 (15.71%)	23 (32.85%)
4 days in a week	13 (19%)	29 (41.42%)	19 (27.15%)
3 days in a week	31 (44%)	15 (21.42%)	07 (10%)
2 days in a week	26 (37%)	15 (21.42%)	09 (12.85%)

Table 4.2, presents a comprehensive cross-classification of the livelihood strategies employed by brass and bell metal artisans across three distinct locations: Islampur, Kagmari (Tangail), and Dhamrai (Savar).

The table highlights various key variables and their distribution within each location. The primary livelihood strategies are detailed, encompassing categories such as ownership of means of production, manufacturing activities, repair and maintenance services, coloring and designing, selling in craft exhibitions, and exporting to international markets. For instance, in Islampur, 10 artisans are owners of means of production, while in Kagmari, this number rises to 18. The artisans' engagement in alternative occupations is also examined, including roles like day labor, farming, rickshaw/van pulling, or pursuing various available work opportunities. The working days in a week are analyzed, showing how many artisans work 7, 6, 5, 4, 3, or 2 days a week. The data provides a detailed insight into the diverse livelihood strategies embraced by these artisans in different locations, shedding light on the variation in their activities, alternative occupations, and working schedules.

5.4 The Assets and Capabilities of Brass & Bell Metal Artisans in Bangladesh

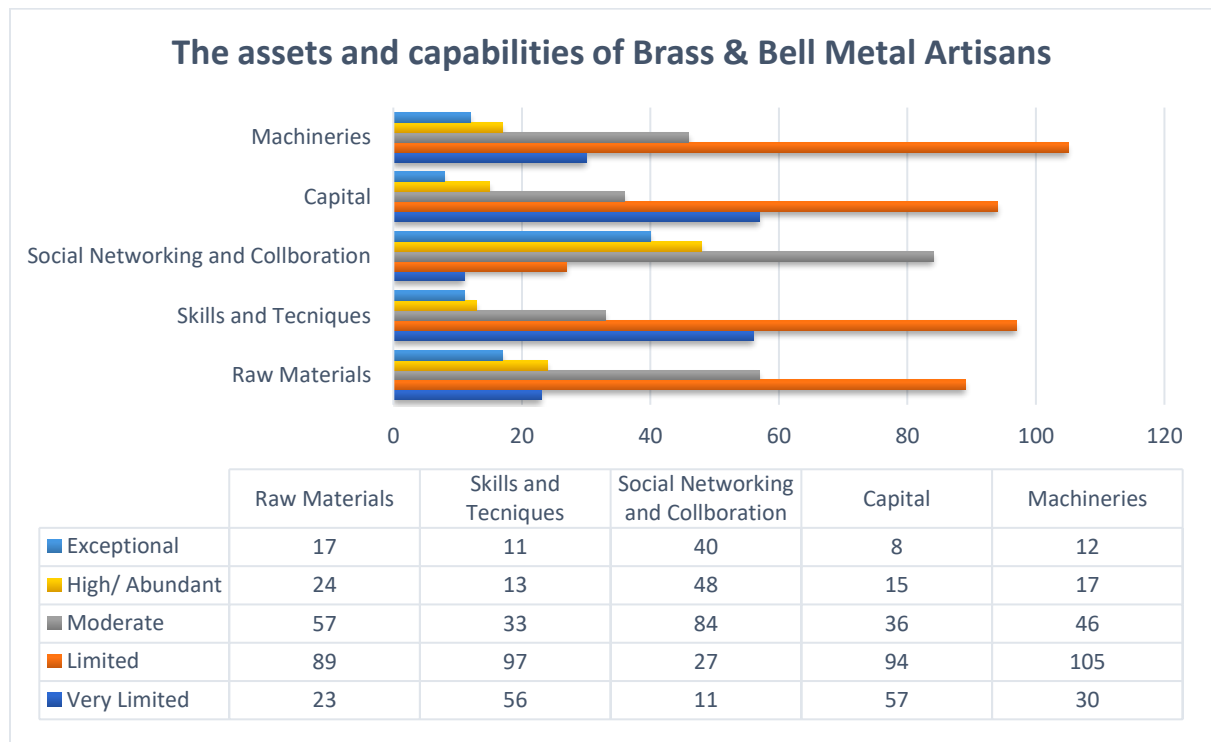


Figure 11: Graphic Presentation of the Assets and Capabilities of the Artisans

The figure (4.1) visually presents the perceived levels of different assets and capabilities possessed by Brass & Bell Metal Artisans in Bangladesh. The table is structured with rows representing various categories and columns indicating different levels of abundance or availability, ranging from “Very Limited” to “Exceptional.”

Raw Materials:

- 23 artisans perceive their access to raw materials as “Very Limited,” while 89 artisans feel it’s “Limited,” 57 artisans consider it “Moderate,” 24 artisans find it “High/Abundant,” and 17 artisans believe it’s “Exceptional.”

Skills and Techniques:

- 56 artisans feel their skills are “Very Limited,” 97 artisans rate them as “Limited,” 33 artisans consider them “Moderate,” 13 artisans see them as “High/Abundant,” and 11 artisans view them as “Exceptional.”

Social Networking and Collaboration:

- 11 artisans rate their abilities in this area as “Very Limited,” 27 artisans as “Limited,” 84 artisans as “Moderate,” 48 artisans as “High/Abundant,” and 40 artisans as “Exceptional.”

Capital:

- 57 artisans feel they have “Very Limited” capital, 94 artisans consider it “Limited,” 36 artisans rate it as “Moderate,” 15 artisans perceive it as “High/Abundant,” and 8 artisans find it “Exceptional.”

Machineries:

- 30 artisans perceive their access to machinery as “Very Limited,” 105 artisans see it as “Limited,” 46 artisans consider it “Moderate,” 17 artisans view it as “High/Abundant,” and 12 artisans rate it as “Exceptional.”

In essence, this figure provides a concise overview of how the brass and bell metal artisans in outlying districts perceive their access to various assets and capabilities, ranging from scarce to abundant. This information is crucial for understanding the artisans’ resource landscape and the potential strengths they have in different aspects of their craft and livelihoods.

5.5 Sources of Raw Materials for Bell & Brass Metal Product

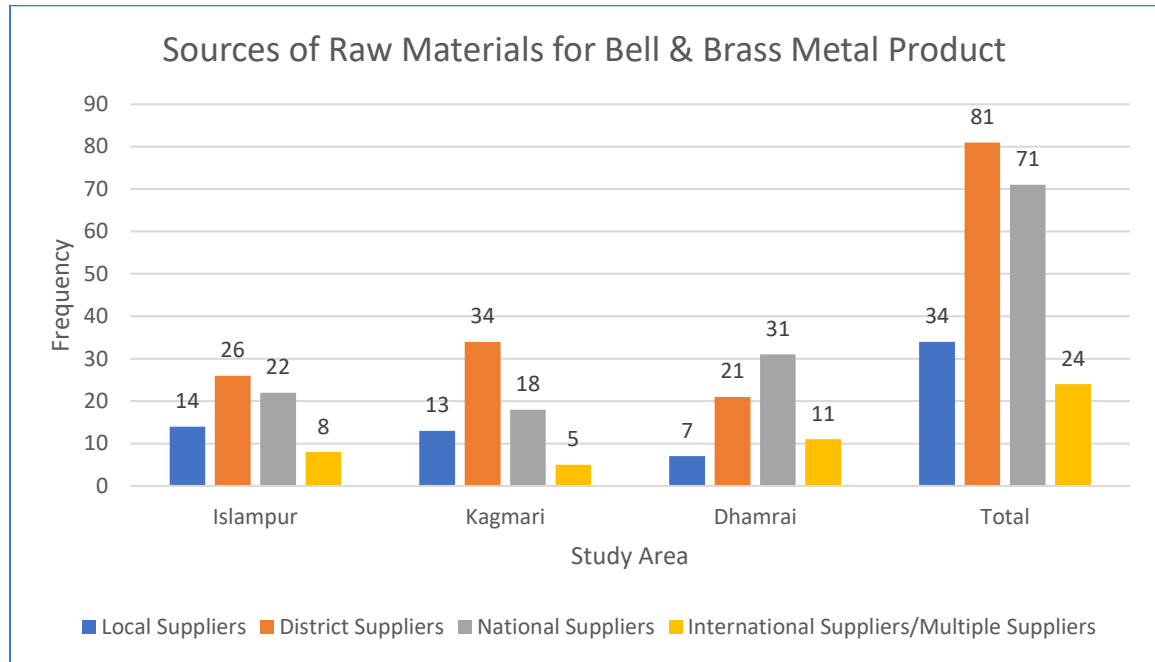


Figure 12: Source of the raw materials for bell and brass metal product manufacturing

The figure (4.2) depicts the sourcing patterns of suppliers among three locations: Islampur, Kagmari, and Dhamrai. The categories include Local Suppliers, District Suppliers, National Suppliers, and International Suppliers/Multiple Suppliers. In Islampur, artisans engage with 14 Local Suppliers, 26 District Suppliers, 22 National Suppliers, and 8 International Suppliers or Multiple Suppliers. Similarly, in Kagmari, the distribution is 13, 34, 18, and 5, respectively. In Dhamrai, artisans interact with 7 Local Suppliers, 21 District Suppliers, 31 National Suppliers, and 11 International Suppliers/Multiple Suppliers. The totals for each location are summed up, showing that across the three locations, the highest number of supplier interactions occur at the district and national levels, with fewer engagements at the local and international levels. This data provides insights into the artisans' supplier relationships at different geographic scales and suggests varying degrees of access to different tiers of suppliers across the locations.

Table 3 : The necessary funds to invest in Brass and Bell metal craft in study area*

<i>Variables</i>	<i>Frequency (N=210)</i>	<i>Percentage</i>
Personal savings accumulated over time	46	21.9
Personal Loan (Bank, NGO, & Financial Organization)	30	14.3
Lending money on interest	18	8.6
Grants from government or non-profit organizations	12	5.7
No money required to invest (For Worker)	164	78.1
	Total= 270	-

**Respondents choose more than one answer*

Table (4.3) provides an insightful overview of the financial resources required for investing in Brass and Bell metal craft within the study area. The table outlines various variables and their corresponding frequencies and percentages. Out of the total respondents (N=210), 46 individuals mentioned utilizing their accumulated Personal savings over time as a source of funds for investment. Additionally, 30 respondents resorted to Personal Loans obtained from banks, NGOs, and financial organizations. Lending money on interest emerged as a financial strategy for 18 respondents, while 12 participants acknowledged receiving Grants from government or non-profit organizations to support their investments. Notably, a significant number of artisans, totaling 164, reported that no monetary investment was necessary for investing in the craft, particularly for those working as laborers. It's important to note that some respondents selected more than one answer, leading to a total response count of 270. This table provides a comprehensive glimpse into the diverse financial avenues adopted by artisans to invest in Brass and Bell metal craft, reflecting a range of approaches from personal savings to external funding sources.

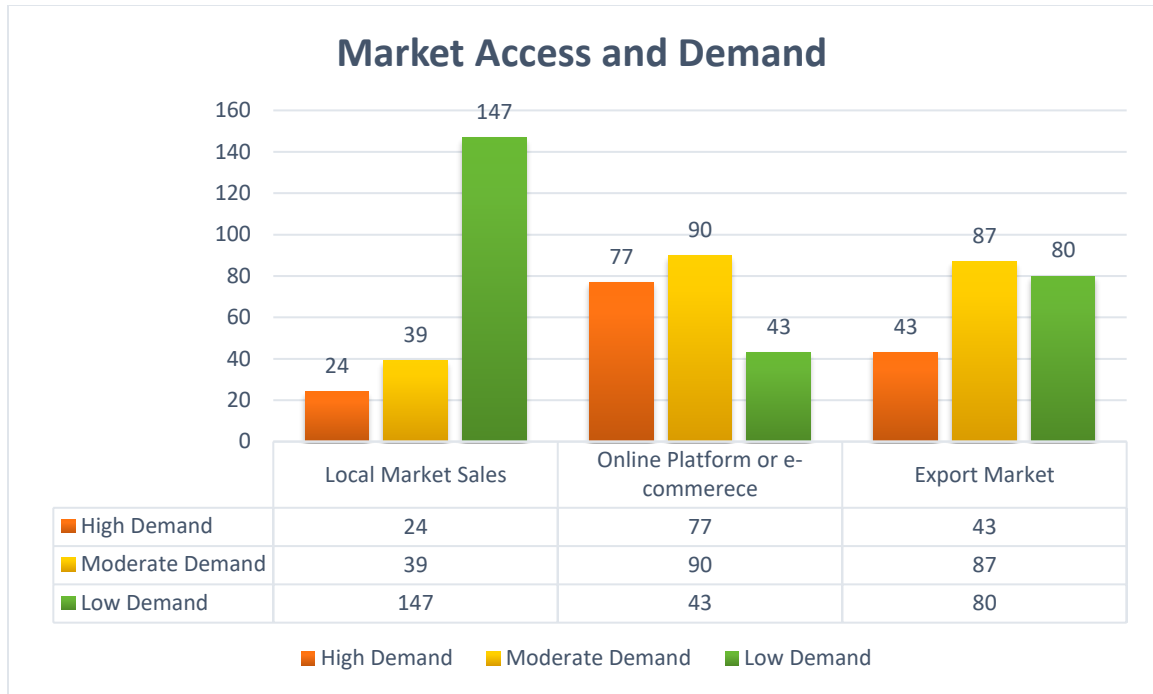


Figure 13: *Market Access and Demand*

The provided data (Figure 4.3) indicates the distribution of demand levels across different sales channels for Brass and Bell metal craft products. In the category of Local Market Sales, there were 24 instances of High Demand, 39 instances of Moderate Demand, and 147 instances of Low Demand. For the Online Platform or e-commerce channel, there were 77 instances of High Demand, 90 instances of Moderate Demand, and 43 instances of Low Demand. In the Export Market category, 43 instances were classified as High Demand, 87 as Moderate Demand, and 80 as Low Demand. This data underscores the varying degrees of demand for these crafts across different sales avenues. It suggests that while Local Market Sales predominantly exhibit low demand, the Online Platform and Export Market display a mix of high, moderate, and low demand, offering insights into the demand dynamics and potential opportunities for the Brass and Bell metal craft products in different markets.

Table 4 : Artisanal skills and techniques in which they are proficient

Variables	Frequency	Percentage
Hammering and Shaping	30	18.5
Engraving	33	20.4
Casting	39	24.1
Joining and Soldering	31	19.1
Patination and Coloring	21	13.0
Embossing	29	17.9
Marketing & Selling	27	16.7
	210 (N)	100

The provided table (4.4) investigates into the proficiency of artisans in various artisanal skills and techniques, offering an insightful analysis of their capabilities. Among a total of 210 respondents, the data underscores the prevalence of specific skills within this craft domain. Notably, Casting emerges as the skill with the highest reported proficiency, with 39 respondents (24.1%) showcasing expertise in this technique. Engraving follows closely with 33 respondents (20.4%) skilled in this intricate art. Joining and Soldering and Hammering and Shaping are similarly prevalent, with 31 (19.1%) and 30 (18.5%) respondents respectively. These findings highlight the artisans' technical prowess in fundamental metalworking techniques. Additionally, the percentages for Embossing (17.9%), Marketing & Selling (16.7%), and Patination and Coloring (13.0%) illustrate their proficiency in both craft execution and market engagement. The cumulative total of 210 respondents and the 100% percentage emphasize the comprehensive coverage of the survey and enhance the reliability of these insights.

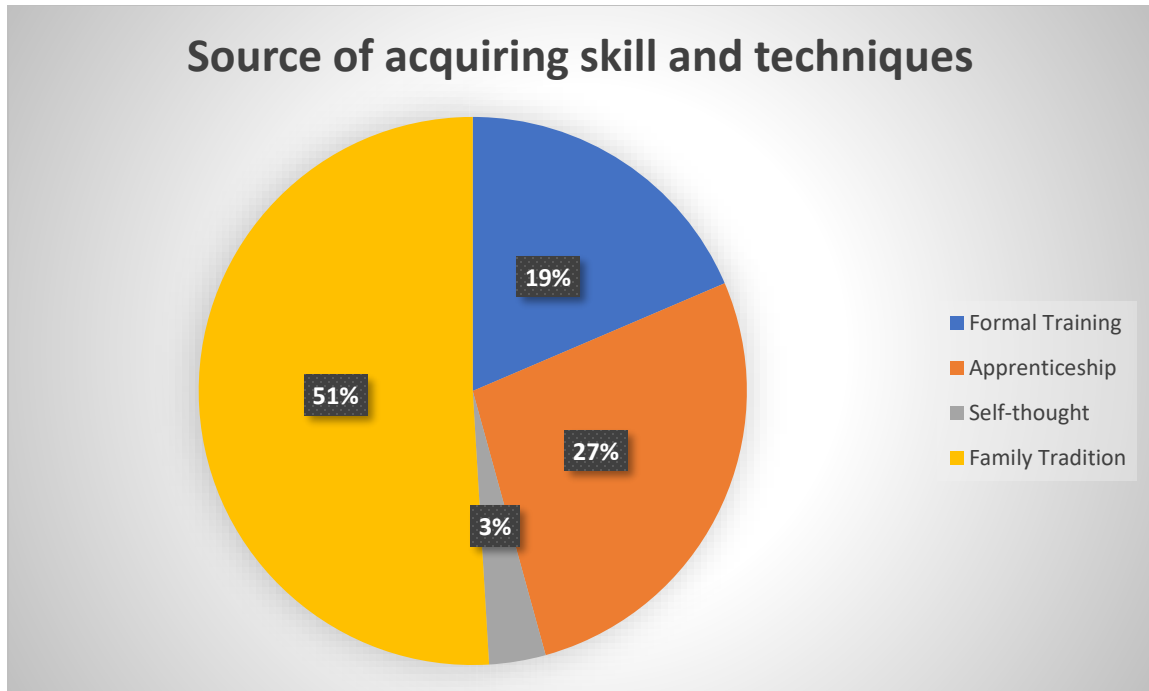


Figure 14: *Source of acquiring skill and techniques*

Figure (4.4) visually encapsulates the diverse sources through which artisans acquire their skill and techniques, presenting a comprehensive understanding of their learning pathways. The figure showcases four distinct variables: Formal Training, Apprenticeship, Self-Taught, and Family Tradition. Among the respondents, Family Tradition emerges as the most prevalent avenue, accounting for 107 instances (50.1%), indicating that half of the artisans inherit their craft skills from their family lineage. Apprenticeship is the second most common source, with 57 instances (27.1%), underscoring the significance of learning through hands-on experience under the guidance of skilled mentors. Formal Training stands at 39 instances (18.6%), representing the proportion of artisans who have received structured education in their craft. Interestingly, Self-Taught artisans comprise a smaller segment, with 7 instances (3.3%), indicating a lesser reliance on independent learning. The percentages offer valuable insights into the dominance of traditional methods like family heritage and apprenticeship in skill acquisition. This figure encapsulates the rich tapestry of learning sources that shape the expertise of artisans in the realm of brass and bell metal craft.

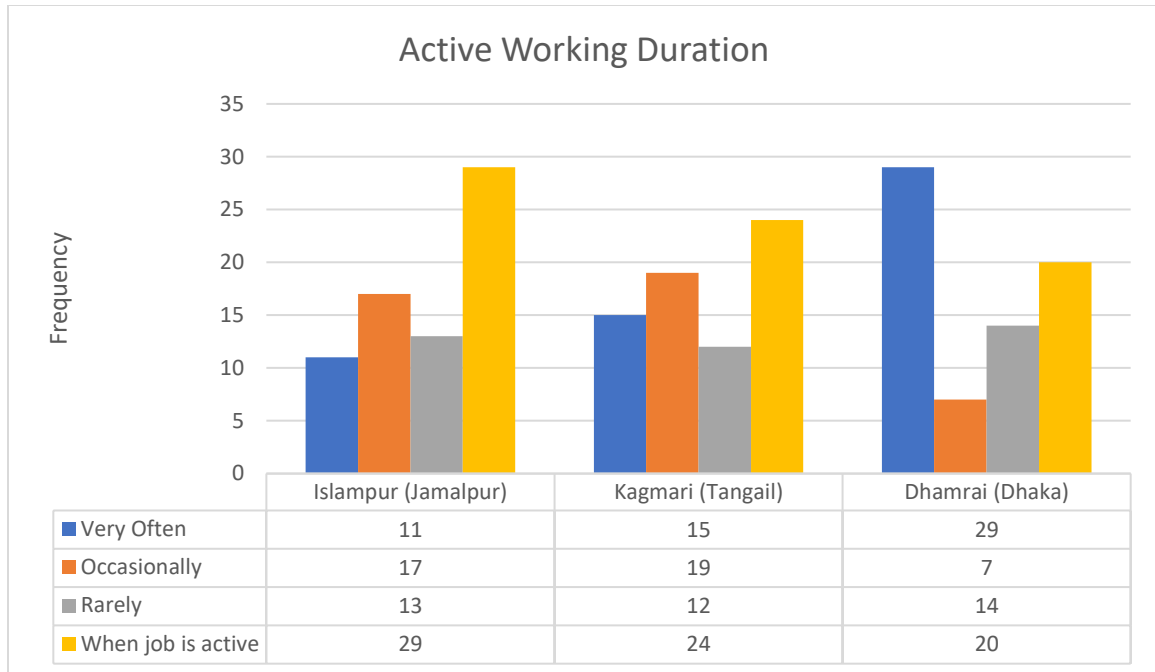


Figure 15: *Participate in workshops for working*

The data indicates (Figure 4.5) the frequency of artisans' participation in workshops related to bell and brass metal crafts in Islampur, Kagmari, and Dhamrai. In Dhamrai, the participation in workshops is notably higher, with 29 artisans reporting very often attending such workshops. Kagmari and Islampur follow with 15 and 11 artisans respectively participating very often.

The frequency decreases when considering occasional participation, where Kagmari has the highest number (19), followed by Islampur (17), and Dhamrai (7). Rare participation is least frequent, with Islampur having 13 artisans, Kagmari with 12, and Dhamrai with 14. Interestingly, when artisans have active jobs, the participation rates shift, with Dhamrai still leading at 20, followed by Kagmari (24) and Islampur (29). This data suggests variations in workshop engagement across the three areas, possibly influenced by factors like accessibility, local initiatives, and demand for their craft.

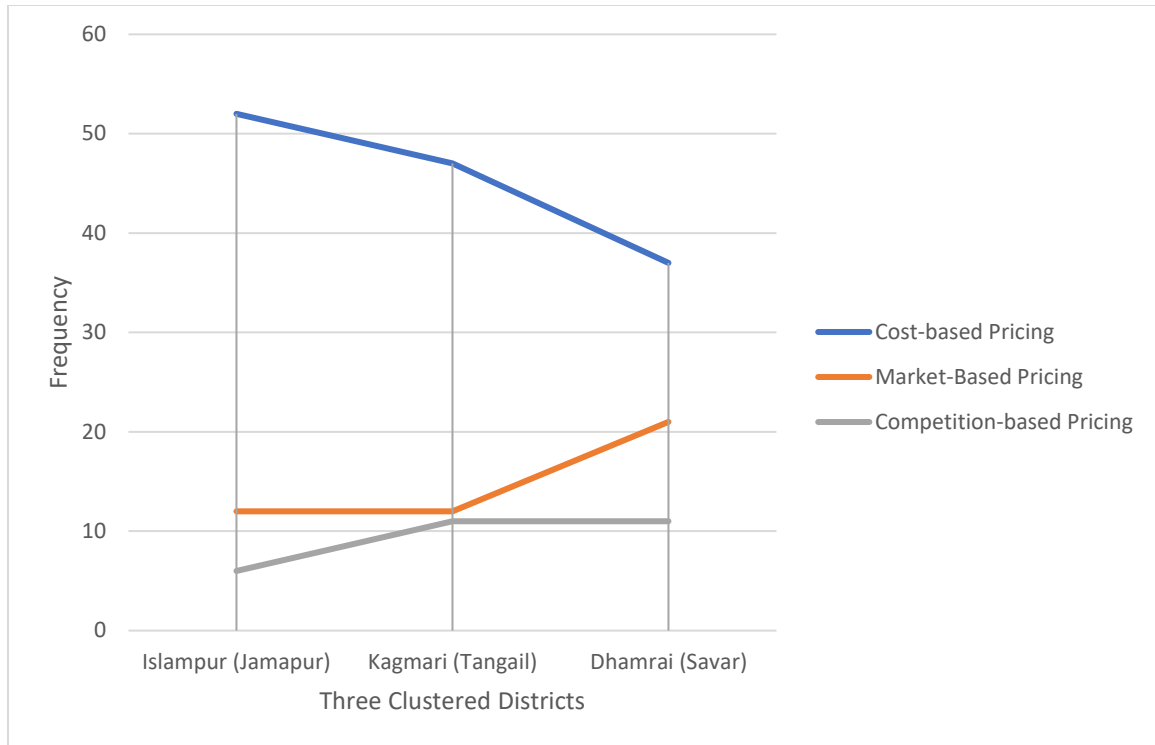


Figure 16: *Determination of the Prices for brass and bell metal products*

The provided data (Figure 4.6) illustrates the methods used in determining prices for brass and bell metal products in the areas of Islampur, Kagmari, and Dhamrai. The artisans' preferences for pricing strategies are evident through the number of respondents for each variable. In all three areas, cost-based pricing is the most commonly employed approach, with Islampur having 52 artisans, Kagmari with 47, and Dhamrai with 37. Market-based pricing is also utilized, though less frequently, with Islampur having 12 artisans, Kagmari with 12, and Dhamrai with 21. Interestingly, competition-based pricing is employed by a similar number of artisans in Kagmari and Dhamrai (11 each), while only 6 artisans in Islampur follow this approach. This data indicates that cost considerations play a significant role in pricing decisions, with market and competition-based factors having a relatively less prominent influence in these regions.

Table 5 : Confidence to the stability of income from brass and bell metal craft sales

Variables	Frequency	Percentage
Very Confident	28	13.3
Confident	43	20.5
Neutral	76	36.2
Not Confident	63	30
	N=210	100

The provided data table outlines the confidence levels artisans have in the stability of their income from sales of brass and bell metal crafts. The responses are categorized into four variables: “Very Confident,” “Confident,” “Neutral,” and “Not Confident.” The data presents a diverse range of sentiments. A significant portion of artisans (20.5%) feel “Confident” in the stability of their income, while 13.3% are “Very Confident.” On the other hand, a considerable percentage (30%) express a lack of confidence, categorizing themselves as “Not Confident.” The highest percentage, however, falls under the “Neutral” category at 36.2%, suggesting a substantial number of artisans are neither fully optimistic nor pessimistic about their income stability. This mixed response indicates the complexity of economic circumstances and market dynamics influencing artisans’ perceptions of income stability in the brass and bell metal craft industry. The data is derived from a sample size (N=210), representing the responses of the artisans surveyed.

5.6 Vulnerability Assessment

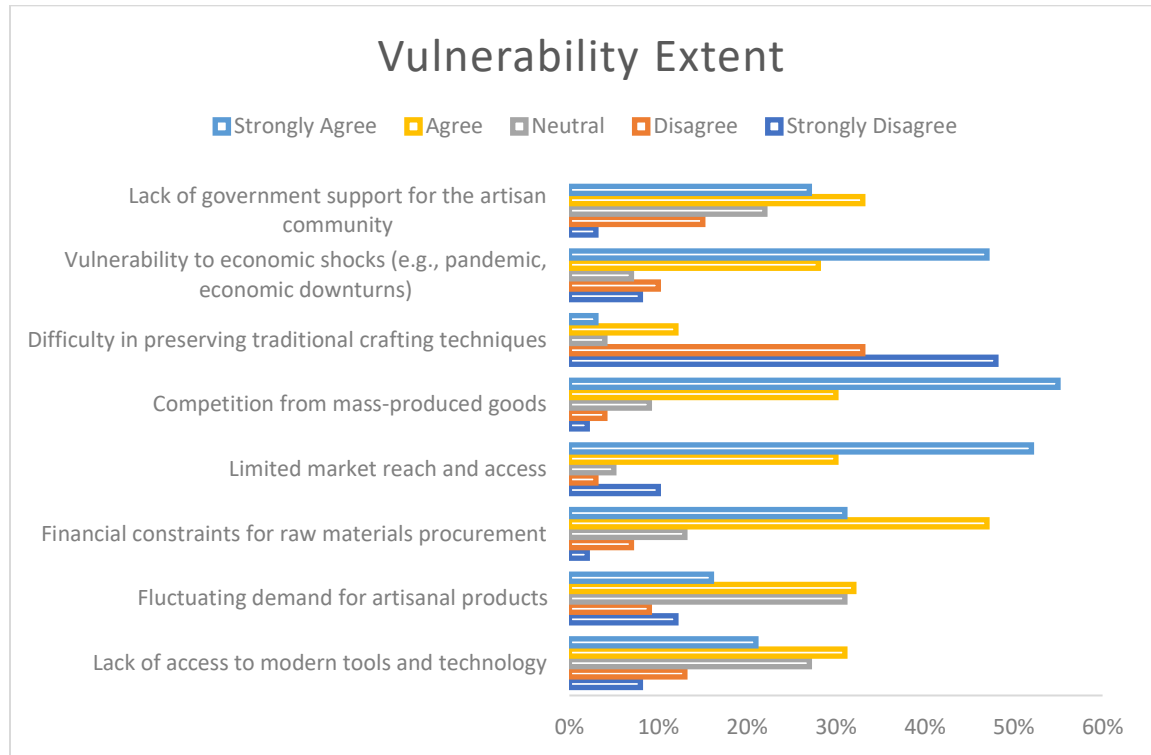


Figure 17 : *Extent to agree with the challenges*

The provided figure (4.7) presents the respondents' perceptions regarding the challenges faced by brass and bell metal artisans in the regions of Jamalpur, Dhamrai, and Kagmari. Each challenge is represented by a statement, and respondents were asked to indicate the extent to which they agree with these challenges using a five-point Likert scale. The data reveals several key insights into the perceptions of artisans' challenges:

- A notable portion of respondents acknowledges the “Lack of access to modern tools and technology” as a challenge, with 31% agreeing and 21% strongly agreeing, highlighting the significance of technological limitations in their craft.
- The challenge of “Fluctuating demand for artisanal products” is perceived differently, with 32% agreeing and 16% strongly agreeing, suggesting that adapting to market dynamics remains a concern for these artisans.

- “Financial constraints for raw materials procurement” emerge as a considerable challenge, as 47% agree and 31% strongly agree, reflecting the financial struggles in acquiring essential materials.
- The issue of “Limited market reach and access” is substantial, with 52% strongly agreeing, indicating the difficulties artisans face in reaching a broader customer base.
- Respondents are particularly concerned about “Competition from mass-produced goods,” as 55% strongly agree, highlighting the fierce competition with industrially produced items.
- The challenge of “Difficulty in preserving traditional crafting techniques” is seen as highly significant, with 48% strongly agreeing and 33% agreeing, underscoring the effort required to maintain traditional methods in a changing landscape.
- The potential “Vulnerability to economic shocks” resonates with respondents, as 47% strongly agree, signifying the artisans’ susceptibility to economic downturns.
- “Lack of government support for the artisan community” is perceived as a challenge by a substantial proportion, with 33% strongly agreeing and 27% agreeing, pointing to the need for stronger governmental assistance.

The data illustrates that artisans in these regions face multifaceted challenges ranging from technological limitations and financial constraints to competition from mass-produced goods and a lack of government support. Preserving traditional techniques and navigating economic uncertainties also weigh heavily on the artisans’ minds. These insights are crucial for understanding the dynamics of the brass and bell metal artisanal sector in Jamalpur, Dhamrai, and Kagmari.

Improving the economic stability of bell and brass metal artisans in Bangladesh requires a comprehensive approach that addresses their unique challenges. Initiatives could focus on enhancing market access by facilitating participation in local and international trade events, establishing online platforms for global reach, and linking artisans with fair trade networks. Financial support in the form of microloans or community savings groups can empower artisans to invest in their businesses and navigate income fluctuations. Skill development

through training workshops, particularly in business management and product innovation, can elevate product quality and diversify offerings. Collaborations with designers, government support for policy advocacy, and targeted marketing efforts can also create a sustainable ecosystem for artisans. Additionally, providing safety nets during economic shocks and fostering partnerships with NGOs, trade organizations, and private enterprises would contribute to the artisans' resilience and long-term economic growth. Copper and brass products are relatively expensive, when question asked to the artisans:

Why is their (Brass and Bell) demand decreasing day by day?

A complex dynamic of economic, social, and cultural transformations that reshaped the landscape of rural copper production in Bangladesh. His account offers a micro-level observation of the broad structural challenges confronting indigenous artisanal industries during the period of industrial capitalism.

The economic factor is the **first** one, which frames the impact of global market integration and industrial substitution. The entry of low-cost, mass-produced inputs such as steel and aluminum rendered previous copper products not economical to make.

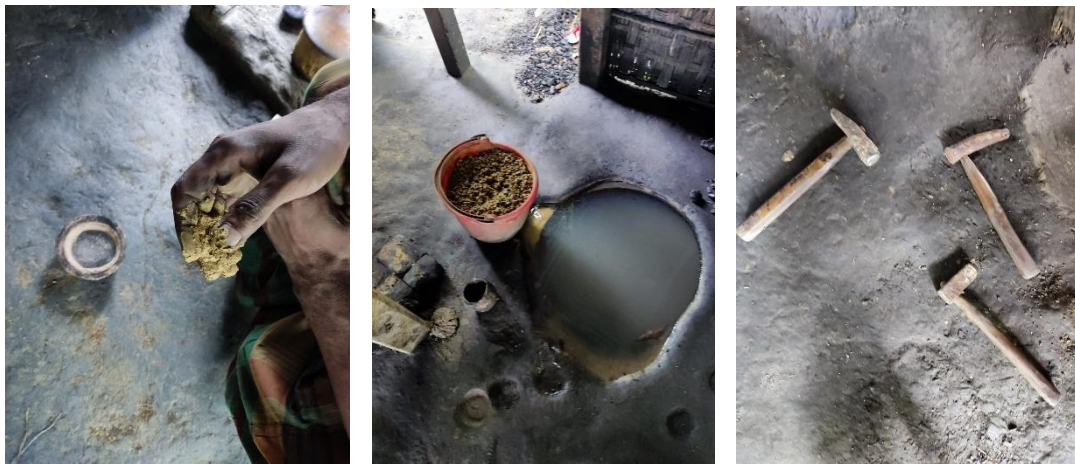


Figure 18 : *Traditional brass and bell making is still focused on simple, handmade tools and ancient techniques: a clay pot or crucible (as melting pot), a small charcoal-heated pit furnace, and clay or sand molds for casting (including lost-wax casting for more*

complex work), all in the hands of experienced craftsmen who measure heat and metal by sight and feel. Photo: Research field captured by Author.

This transition shows how modern production systems based on efficiency and low cost systematically marginalize artisanal economies based on labor-intensive inputs and local raw materials.



Figure 19 : *Local artisan preparing and processing the raw materials for the productions of Brass and Bell with traditional knowledge and techniques. Photo: Research field captured by Author.*

Secondly, the cultural element suggests a gradual decline in the traditional values and consumption patterns. Historically, copper held both utilitarian as well as symbolic significance in family and ritual life, particularly in Hindu religious ceremonies. Its demand today exists only within limited ceremonial situations—and even there, diminishing—

suggests the erosion of traditional ways of life and changing socio-cultural preferences. The transformation suggests a process of cultural disembodiment, whereby the traditional custom loses salience within a modern social context.



Figure 20 : *Traditional brass and bell-making tools used by craftsmen in Dhamrai—used for the manufacture of ritual bells, household utensils, and symbolic figurines of elephant and horse with intricate ornamentation. Handmade objects possess great cultural and religious significance in Hindu household life and ritual ceremony, being applied both to everyday practicality and religious use. Photo: Research field captured by Author.*



Figure 21: *The bell, known as “ghonta” or “ghanti” in the local language, is imbued with religious and cultural significance, especially in Hindu religious rituals. Once the craftsmen complete the exquisite casting and polishing task, the bell assumes the form of a finely finished product — not merely a metal contraption, but a sacred symbol of devotion and purity. “When the bell rings, it is not just sound; it is prayer. The vibration spreads peace in the mind and purity in the air.”*

Photo: Research field captured by Author.

Thirdly, occupational and social effects of such a transition run deep. When economic rewards through copper craftsmanship decline, craftsmen are pushed out of conventional

professions that once identified and situated them in society. Grievance thus points to a broader trend of de-skilling and occupational marginalization, as hereditary craftsmen enter low-paying or informal economies, eroding traditional knowledge systems.

One is able to understand the downfall of traditional craftsmanship in society. It captures the tension between economic rationality and cultural continuity, illustrating how forces of modernization—while yielding material progress—simultaneously threaten preservation of artisanal heritage and socio-economic structure on which it rests.

“The demand for copper craftsmanship has declined due to the influx of various materials like steel or aluminum in the current market. One major reason for this is cost. Since the prices have relatively decreased, nowadays steel products are being used in most households. The demand for copper is limited to wedding ceremonies and other religious occasions. However, even there, the demand has decreased due to the influence of modernity. The rising cost of raw materials has caused difficulties in maintaining competitiveness. As a result, many artisans are forced to abandon their ancestral businesses and resort to other means of livelihood.”

(Raton Fakir, a copper artisan from Islampur, Jamalpur)

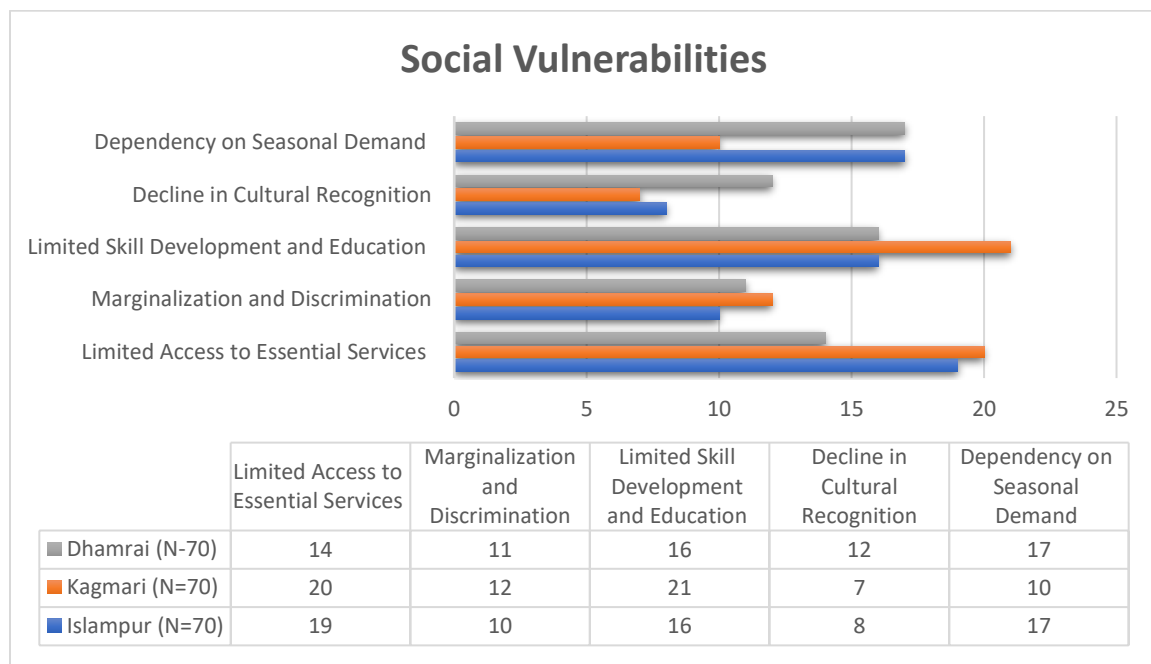


Figure 22 : Social Vulnerability

Figure 4.8, Brass and bell metal artisans can face a range of social vulnerabilities that impact their well-being and livelihoods. These vulnerabilities are often interconnected and can vary based on cultural, economic, and geographic factors. Some common types of social vulnerabilities faced by bell and brass metal artisans include:

1. **Limited Access to Essential Services:** According to Respondent, Artisans might lack access to basic services such as healthcare, education, and sanitation. This can lead to health issues, limited educational opportunities, and reduced overall quality of life. In Islampur, 27.1% of the respondents (19 out of 70) identified limited access to essential services as a challenge for bell and brass metal artisans in that area. In Kagmari, a similar sentiment was shared by 28.6% of respondents (20 out of 70). And In Dhamrai, 20% of respondents (14 out of 70) highlighted the same challenge.
2. **Marginalization and Discrimination:** Artisans from certain communities may face discrimination based on factors like caste, ethnicity, or religion. This marginalization can limit their opportunities, restrict their social interactions, and perpetuate social inequalities. In Islampur, 14.3% of respondents (10 out of 70) expressed concerns about marginalization and discrimination affecting artisans. Kagmari had 17.1% of respondents (12 out of 70) who shared this concern. Dhamrai saw 15.7% of respondents (11 out of 70) acknowledging the challenge of marginalization and discrimination.
3. **Limited Skill Development and Education:** Lack of access to quality education and skill development opportunities can hinder artisans' ability to adapt to changing market demands and access better income-generating options. In Islampur, 22.9% of respondents (16 out of 70) noted limited skill development and education opportunities for artisans. Kagmari had a higher percentage at 30% (21 out of 70) expressing the same concern. In Dhamrai, another 22.9% of respondents (16 out of 70) shared this sentiment.

4. **Decline in Cultural Recognition:** Traditional artisanal skills and craftsmanship are often passed down through generations. However, modernization and shifting values can lead to the erosion of cultural heritage, impacting artisans' sense of identity and pride. In Islampur, 11.4% of respondents (8 out of 70) observed a decline in cultural recognition for bell and brass metal artisans. Kagmari had 10% of respondents (7 out of 70) who shared a similar sentiment. Dhamrai saw a slightly higher concern, with 17.1% of respondents (12 out of 70) indicating a decline in cultural recognition.
5. **Dependency on Seasonal Demand:** Fluctuating demand for brass and bell metal crafts can lead to irregular income streams, making artisans vulnerable to economic instability and poverty. In Islampur, 24.3% of respondents (17 out of 70) felt that dependency on seasonal demand was a notable vulnerability for artisans. In Kagmari, 14.3% of respondents (10 out of 70) held the same view. Dhamrai had an identical percentage of 24.3% (17 out of 70) acknowledging the challenge of dependency on seasonal demand.

This data provides insights into the varying degrees to which these social vulnerabilities are perceived among bell and brass metal artisans in Islampur, Kagmari, and Dhamrai. The percentages offer a comparative view of these vulnerabilities across the different areas, shedding light on potential differences in challenges faced by artisans in each location. Regarding environmental vulnerability, a frequent question was asked to the respondents.

Could you please share your observations or insights regarding the potential environmental vulnerabilities faced by the brass and bell metal industry in Bangladesh?

This could include factors such as resource depletion, waste generation, pollution, or any other environmental concerns that you believe might affect the industry's sustainability and the surrounding ecosystem. The maximum 95% respondents said, yes, we believe but, in our work, we properly regulate all environmental concern in doing job in the factory.

‘We consider environmental issues during work, but in reality, they are just saying that. Truly speaking, the brass and bell metal industry in Bangladesh faces several potential environmental vulnerabilities that could impact its sustainability and the surrounding ecosystem. One major concern is resource depletion, as the industry relies on raw materials such as metals, which may be finite and subject to overexploitation. Additionally, the manufacturing processes involved in crafting these products might generate significant waste, contributing to environmental pollution if not properly managed. The emissions from energy-intensive processes could contribute to air pollution, while improper disposal of waste materials might lead to soil and water contamination. Moreover, traditional methods and techniques might involve the use of harmful chemicals or substances that could pose risks to both the environment and the health of artisans. These vulnerabilities warrant careful consideration to ensure a balance between the industry’s growth and minimizing its negative environmental impacts.’

(Nitesh Karomokar, 30, Dhamrai, Savar)



Figure 23 : *The final products feature animal models and the pot that’s used to hold betel leaves--called a “paaner patro.” The paaner patro, as an item carrying cultural significance in Bengali households, has traditionally been used by older members of the family to prepare and to serve betel leaves as part of a customary hospitality and social bonding practice. Source: Photo captured by Author, Islampur, Jamalpur*

Table 6 : Health and well-being vulnerabilities*

<i>Study Area</i>	<i>Occupational Hazards</i>	<i>Limited Healthcare Access</i>	<i>Lack of Safety Measures</i>	<i>Mental Stress and Anxiety due to Irregular Income</i>	<i>Total Response</i>
Islampur (Jamalpur)	43 (61.43%)	57 (81.43%)	38 (54.29%)	67 (95.71%)	205
Kagmari (Tangail)	32 (45.71%)	56 (80%)	42 (60%)	52 (74.29%)	182
Dhamrai (Savar)	29 (41.42%)	23 (32.86%)	43 (61.43%)	47 (67.14%)	142

**N=210, but respondents choose more than one answer of each question.*

Table 4.7, presents data on health and well-being vulnerabilities in three different study areas: Islampur (Jamalpur), Kagmari (Tangail), and Dhamrai (Savar). The table provides information on four specific factors: Occupational Hazards, Limited Healthcare Access, Lack of Safety Measures, and Mental Stress and Anxiety due to Irregular Income. These factors are analyzed based on the responses of a total of 210 participants. It's important to note that respondents were allowed to choose more than one answer for each question, which is why the percentages might add up to more than 100% in some cases.

- **Occupational Hazards**

Brass and bell metal artisans in Bangladesh are often exposed to various occupational hazards due to the nature of their work. Without proper safety measures and equipment, these hazards can impact the physical health and overall well-being of artisans. In Islampur (Jamalpur), 43 respondents (approximately 61.43% of the total respondents in this area) reported facing occupational hazards. 32 respondents (approximately 45.71%) reported facing occupational hazards in Kagmari. And In Dhamrai (Savar), 29 respondents (approximately 41.42%) reported facing occupational hazards. These hazards could include exposure to

harmful chemicals, sharp tools, heavy lifting, repetitive strain injuries, and accidents. The handling of metals and tools also poses risks of cuts, burns, and exposure to hazardous substances.

- **Limited Healthcare Access**

Many brass and bell metal artisans in Bangladesh face challenges in accessing healthcare services. Limited resources, lack of proper healthcare facilities in rural areas, and financial constraints can hinder their ability to seek medical attention when needed. This lack of access to healthcare may result in delayed or inadequate treatment for work-related injuries, illnesses, or other health issues, thereby affecting their overall health and well-being. In Islampur (Jamalpur), 57 respondents (approximately 81.43%) expressed limited access to healthcare services. In Kagmari (Tangail), 56 respondents (approximately 80%) expressed limited access to healthcare services. And 23 respondents (approximately 32.86%) expressed limited access to healthcare services Dhamrai of Savar District.



Figure 24 : *Workers of artisanship with metal and brushes were involved in unimaginably hard and risky conditions where they were daily exposed to fire, coal and smoke which were all together sever health and safety risks. The illustration reflects their unfortunate working situations with the absence of safety measures as well as the exposure to hazards that come with the traditional metalcraft production. Source: Photo captured by Author, Islampur, Jamalpur*

- **Lack of Safety Measures**

The absence of proper safety equipment and training exacerbates the risks artisans face. Insufficient protection leaves them vulnerable to accidents and health complications, potentially resulting in long-term health issues. 38 respondents (approximately 54.29%) indicated a lack of safety measures in their work environments in Jamalpur.

In Kagmari (Tangail), 42 respondents (approximately 60%) indicated a lack of safety measures in their work environments. In Dhamrai (Savar), 43 respondents (approximately 61.43%) indicated a lack of safety measures in their work environments.

- **Mental Stress and Anxiety due to Irregular Income and Job Uncertainty**

The irregular and unpredictable income in the brass and bell metal industry can lead to significant mental stress and anxiety among artisans. The uncertainty of demand for their products and the competition from mass-produced goods can create financial instability. This, in turn, affects their ability to support their families and meet basic needs. The constant worry about sustaining their livelihoods can take a toll on their mental well-being, contributing to stress, anxiety, and even feelings of helplessness. The issue of mental stress and anxiety stemming from irregular income patterns is evident in the surveyed areas. In Islampur (Jamalpur), an overwhelming 95.71% of respondents (67 individuals) reported grappling with these emotional challenges due to income unpredictability. Similarly, in Kagmari (Tangail), a substantial 74.29% (52 respondents) voiced experiencing such distress due to irregular income. The trend persists in Dhamrai (Savar) as well, with 67.14% (47 respondents) acknowledging the adverse mental health impact of inconsistent earnings. These findings underline the pervasive nature of the problem and highlight the necessity for targeted interventions to alleviate the mental well-being burden caused by financial instability.

5.7 The Coping Mechanism adopted by Artisan to mitigate the risk

Table 7 : Strategies Adopted by Artisans to Overcome Challenges

Study Area	Diversification	Collaborations	Skills Training	Online Marketing	GO Support
Islampur	24.29%	3.33%	11.43%	13.81%	20.48%
Kagmari	22.38%	4.76%	14.76%	17.62%	14.76%
Dhamrai	27.14%	8.10%	10.00%	18.57%	20.95%

- **Diversification of Products**

Artisans have expanded their product range beyond traditional items like brass utensils or bells. By creating new and diverse products that appeal to a wider range of customers, they can reduce their reliance on a limited market and cater to changing consumer preferences. For instance, they might produce decorative items, jewelry, home décor, or even incorporate modern designs while still maintaining the essence of their craft. Diversification of products as a strategy is most prevalent in Dhamrai (27.14%), followed by Islampur (24.29%) and then Kagmari (22.38%). Dhamrai artisans seem to be particularly focused on expanding their product range.

- **Collaborations with Other Artisans**

Collaborating with artisans from different crafts or regions allows for the creation of unique and innovative products. This strategy helps artisans cross-pollinate ideas, learn new techniques, and combine their skills to produce one-of-a-kind items that stand out in the market. Joint efforts also enable shared marketing, exhibitions, and the potential to tap into each other's customer base. Collaboration with other artisans is most common among Dhamrai artisans (8.10%), followed by Kagmari (4.76%) and then Islampur (3.33%). Dhamrai artisans seem to prioritize working together with others to overcome challenges.

- **Skills Training and Capacity Building**

Artisans invest in training programs to improve their skills and stay updated with the latest techniques, tools, and trends in their craft. This empowers them to produce higher-quality products that are in line with contemporary tastes. Capacity building initiatives might include workshops, seminars, or training sessions conducted by experts or organizations specializing in skill development. Kagmari (14.76%) has the highest percentage of artisans focusing on skills training. This suggests that artisans in Kagmari place a strong emphasis on improving their craft and expertise, which could lead to higher quality products and potentially more competitive positioning.

- **Online Marketing and Sales**

Establishing an online presence through websites, social media platforms, and online marketplaces allows artisans to showcase their products to a global audience. This strategy enables direct interaction with customers, facilitates easy purchasing, and reduces the need for intermediaries. Effective online marketing techniques, such as engaging content and visually appealing imagery, can attract potential buyers. Artisans in Dhamrai (18.57%) and Kagmari (17.62%) seem to be more active in adopting online marketing strategies, potentially indicating a recognition of the importance of online platforms for reaching a broader audience and increasing sales.

- **Seeking Government Support or Grants**

Artisans explore avenues for government support, grants, or subsidies to overcome financial challenges and invest in their businesses. Government agencies or cultural bodies may provide funds to assist with product development, marketing, infrastructure, or participation in trade fairs and exhibitions. This financial support can help artisans sustain and grow their craft businesses. Both Islampur (20.48%) and Dhamrai (20.95%) have a relatively high percentage of artisans seeking government support. This might suggest that artisans in these areas perceive government assistance as crucial in overcoming challenges.

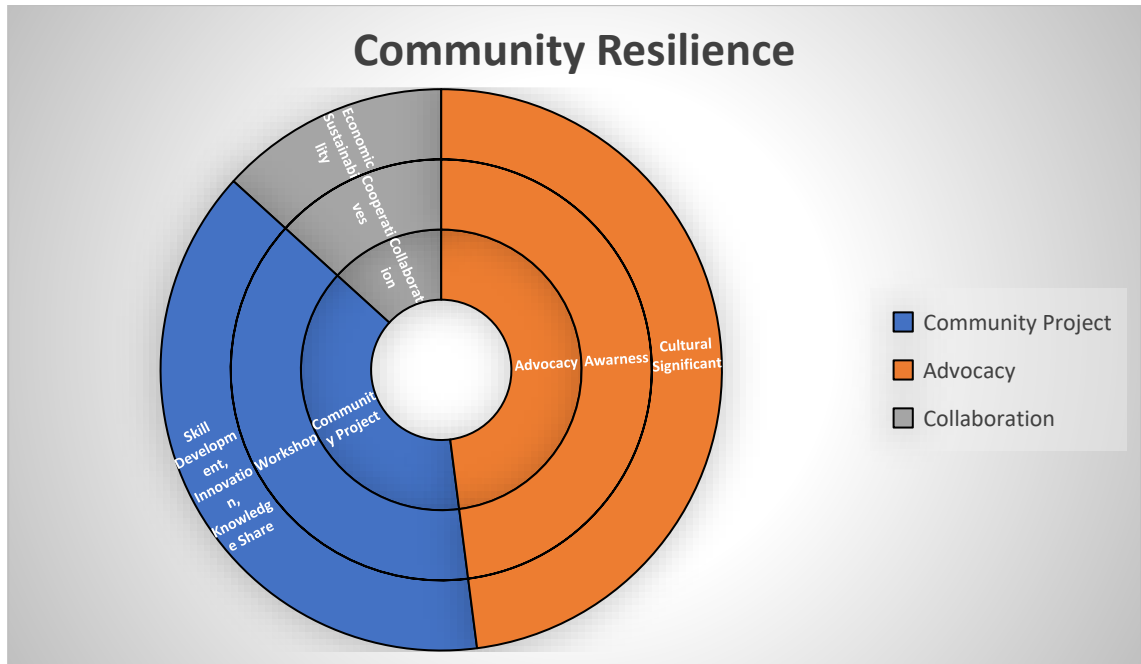


Figure 25 : *Community Resilience toward solve the artisans' challenges*

Figure 4.9 shows that, Artisan communities have responded to the challenges they face through a variety of approaches, including community projects, advocacy, and collaborations. These initiatives often aim to strengthen the resilience of the community and ensure the continued practice of their craft. Community projects might involve organizing skill enhancement workshops, product innovation sessions, and knowledge-sharing events. Advocacy efforts often focus on raising awareness about the cultural significance of their craft, both within their local communities and at larger platforms. Collaborations with other artisan groups allow for shared resources, ideas, and support, enabling the community to address challenges more effectively. Additionally, some communities establish cooperatives or associations to collectively manage issues related to raw material sourcing, marketing, and economic sustainability. These collective responses highlight the determination of artisan communities to preserve their traditions and adapt to changing circumstances.

In the context of the artisan communities in Islampur, Kagmari, and Dhamrai, there are notable efforts to enhance Community Resilience in tackling their challenges. These efforts

are categorized into several strategies: firstly, the implementation of community projects, including workshops focused on skill development, innovation, and knowledge sharing, involving 38 individuals. Secondly, advocacy initiatives have been undertaken, aiming to raise awareness about the cultural significance of their crafts, involving 47 participants. Thirdly, collaborative endeavors have been established through cooperatives, aiming at ensuring economic sustainability, engaging 13 members. However, a significant portion of the artisan communities, around 77 individuals, seem to be less actively involved in community resilience initiatives. Surprisingly, 35 artisans have reported not receiving any form of support despite the existing efforts. These findings underscore the diverse approaches undertaken by these communities to address challenges while revealing room for further engagement and support within the context of community resilience.

“Our culture has a certain warmth and uniqueness to it. Our people share a very strong emotional connection — a sense of belonging that makes everyone feel like one large family, an extended family. We actually care for one another, and that sense of camaraderie is deep in our hearts. But when it comes to business, everyone protects their own interests; emotions give way to practicality. Even though we do not have any kind of formal community structure, there is an unspoken understanding among us — when in need, familiar faces always show up to help. It is this underlying sense of belonging and concern for each other that keeps our community together.”

(Atahar Ali, 48, an artisan from kagmari, Tangail)

A multidimensional picture of the socio-economic situation, living habits, and institutional issues of brass and bell metal artisans in Islampur (Jamalpur), Kagmari (Tangail), and Dhamrai (Dhaka). The composition of artisans involves a huge male majority—95.7% in Islampur, 92.9% in Kagmari, and 90% in Dhamrai—while females constitute a small fraction of workers. This disparity reflects both the physical nature of metalworking and cultural norms that limit women’s participation in craft work occupations. Monthly earnings levels are also regionally unequal: in Islampur, 45.71% earn BDT 11,000–20,000 per month, while in Kagmari, 38.57% earn between BDT 21,000–30,000, a marginally

superior income likely due to improved market linkages. For Dhamrai, 51.43% earn over BDT 11,000, though variability remains high. These differences show that Dhamrai artisans have greater accessibility to consumers and possible earnings with proximity to urban centers such as Dhaka, in contrast to those in Islampur and Kagmari, who experience more market restrictions.

In livelihood activities, the artisans engage in production, repair, polishing, and maintenance services. Production is also most concentrated in Kagmari (30 artisans) and Dhamrai (29 artisans), although Islampur and Kagmari are more involved in repair and maintenance work (34 and 30 artisans, respectively). Involvement with craft exhibitions and international markets continues to be low—only 8 artisans in Dhamrai engage in exhibitions, and 4 in Islampur and 3 in Kagmari market goods internationally. This indicates restricted access to broader markets and highlights reliance on local consumers by the artisans. Other professions similarly indicate economic vulnerability: in Islampur, 33% of the artisans are farm laborers and 26% labor on farms, whereas in Kagmari, 31% drive rickshaws or vans, and 24% engage in other informal activities. On the contrary, in Dhamrai 47% report no other occupation, implying both reliance on craft production and the lack of possibilities for diversification. The number of working days in a week also reflects these economic cycles—Islampur artisans work three (44%) or two (37%) days, showing less consistency, Kagmari artisans four (41%) or three (21%) days, and Dhamrai artisans five (33%) or four (27%) days a week, reflecting greater production stability when market demand is consistent.

Based on skills and technical expertise, outcomes show 97 workers to be skilled to a limited extent, 56 to a very limited extent, 33 to a moderate extent, 24 to a high/abundant extent, and 13 to an exceptional extent. This finding reveals low formal training and intergenerational skill transfer, leading to poor quality craftsmanship. Access to capital remains the most serious constraint: 94 artisans have limited and 57 very limited access to capital, while only 36 have moderate access. Just 15 artisans perceive access as being high/abundant, and only 8 perceive access as being exceptional. Limited access to funds denies the artisans access to raw material acquisitions or investment in improved tools and

technology. Similarly, 52% of the craftsmen (21% agree, 31% strongly agree) lack access to advanced machinery and equipment, and only 8% strongly disagree. Such technological backwardness forces craftsmen to work with labor-intensive time-consuming techniques, thereby becoming less efficient and expensive.

Adjustments adopted by craftsmen involve diversification and skill training to cope with market and material constraints. Diversification is the maximum in Dhamrai (27.14%), then in Islampur (24.29%) and Kagmari (22.38%), showing low but considerable adaptive behavior. Investment in skill development is relatively low—14.76% in Kagmari, 11.43% in Islampur, and 10.00% in Dhamrai—showing a non-existent institutional support system for capacity building. Online marketing adoption is medium, with 18.57% of Dhamrai artisans, 17.62% of Kagmari artisans, and 13.81% of Islampur artisans selling online. These trends reveal that artisans in the urban periphery areas are gradually adopting new marketing tools, but resource limitations and inadequate digital skills keep rural artisans back. Social vulnerabilities are a common feature in all three districts. Psychological tension and stress resulting from volatile earnings are widespread, reflecting the psychic price of economic insecurity. A lack of access to healthcare was recounted by around 80% of the respondents in Kagmari and Islampur and further indicates their vulnerability. Workplace hazards—such as burns, cuts, and respiratory issues—are rampant in Islampur, where workers toil without protective gear or safety mechanisms in place. Safety standards are equally missing from places, which range from 54% to 61%, subjecting workers to chronic exposure to health hazards at all times. Institutional and government intervention in this area remains negligible. Although sporadic interventions by organizations like the ESDO (Eco-Social Development Organization) have been made to improve production and marketing, few artisans have been helped directly by the government. This dearth of substantial policy support continues to reinforce poverty and marginalization among artisan families.

5.8 Conclusion

This chapter has systematically analyzed the empirical evidence regarding the socio-economic conditions, livelihood strategies, vulnerabilities, and coping strategies of brass and bell metal artisans of the selected study areas of Islampur (Jamalpur), Kagmari (Tangail), and Dhamrai (Savar). The findings indicate that these artisans occupy a unique position in the culture and economy of Bangladesh, while at the same time, their livelihoods remain tenuous due to structural, institutional, and market constraints.

As analysis of the material illustrates, artisans primarily rely on traditional manufacturing and repair work, which is limited by access to modern tools, financial capital, and sustainable markets. While artisans have deep intergenerational skills and cultural knowledge, the vast majority of artisans experience low stability and income, limited schooling, and minimal occupational security. The findings also indicated multiple vulnerabilities are present in their craft-based livelihoods, including economic instability, socio-cultural vulnerability, and health-based vulnerabilities, which jeopardizes the sustainability of the artisans' livelihoods.

Nevertheless, the study also provides indications of adaptive resilience in the communities. Artisans are increasingly involved in creating diverse products, building skills, using social media to expand marketing outreach, and exploring collective actions to overcome competitive markets and scarce resources. Community-based approaches, including informal support and advocacy in government policymaking, are also helping to sustain cultural identity and economic resilience, complicating socio-economic transformations.

The conversation in this chapter represents an extensive empirical basis for understanding key dynamics within the brass and the bell metal craft sector in Bangladesh. The next chapter will review these findings in relation to larger theoretical and policy frameworks, focusing on sustainable livelihood development, cultural heritage preservation, and inclusive policy efforts. In addition, it will offer practical recommendations for strengthening institutional support, improve artisans' resilience, and bolster traditional metal craft industries in Bangladesh for the long run.

CHAPTER VI: QUALITATIVE FINDINGS AND ANALYSIS

6.1 Introduction

6.2 Detailed Profile of FGD Participants

6.3.1 Social Status and Community Perception

6.3.2 Residential Location, Living Environment and Basic Infrastructure

6.3.3 Educational Access, School Experience and Social Acceptance

6.3.4 Occupational Dependency, Livelihood Pattern and Income Security

6.3.5 Daily Lifestyle Practices and Household Organization

6.3.6 Social Interaction, Cultural Participation and Community Engagement

6.3.7 Experiences of Discrimination, Exclusion and Social Barriers

6.3.8 Migration, Mobility and Livelihood

6.3.9 Access to Government and NGO Services

6.3.10 Coping Practices and Problem Minimizing Mechanisms

6.3.11 Collective Responsibility and Pathways for Artisan Upliftment

6.4 Conclusion

6.1 Introduction

This chapter presents a detailed analysis of the qualitative data gathered through two Focus Group Discussions (FGDs) conducted with individuals from outside the brass and bell metal artisan community in Bangladesh. The primary objective was to capture external perspectives on the livelihood strategies, social positioning, vulnerabilities, and resilience mechanisms of artisan families. These discussions serve as a critical triangulation tool, complementing the direct narratives from artisans themselves while revealing how societal perceptions shape—and are shaped by—artisan realities.

The FGDs were conducted in two geographically and culturally distinct regions: Dhaka (brass and metal hub) and Tangail (focusing on the traditional metalworking villages). Sixteen participants were purposively selected across occupational categories that regularly intersect with artisan lives: local governance representatives, educators, healthcare providers, traders, journalists, NGO professionals, and religious/community leaders. This diversity ensured a multidimensional understanding of how artisans are viewed, valued, and validated within broader social ecosystems.

Each discussion followed a semi-structured protocol lasting approximately 2.5 hours, conducted in Bangla, and later transcribed and translated with careful attention to contextual nuance. Ethical protocols including informed consent, voluntary participation, and confidentiality were strictly maintained. Participants are referenced using anonymized codes: FGD1(A) through FGD1(H) for the Dhaka group, and FGD2(A) through FGD2(H) for the Tangail group.

This chapter is systematically organized into two primary sections:

- **Section A1** provides detailed demographic and professional profiles of FGD participants, contextualizing their perspectives within their occupational and social roles.

- **Section B2** presents a thematic analysis structured around fourteen emerging themes that directly correspond to the study's objectives and research questions. Each theme is explored through participant narratives, analytical interpretation, and conclusive summaries.

The FGD findings reveal not only the structural and social challenges facing artisans but also uncover societal attitudes, implicit biases, and community-level insights crucial for designing effective, culturally sensitive interventions. This chapter bridges artisan self-perceptions (from case studies) with societal perceptions, creating a holistic understanding essential for sustainable development planning.

Section A1: Description of the Respondents

6.2 Detailed Profile of FGD Participants

FGD 1 – Conducted in Dhaka (Mohammadpur Community Center)

Duration: 2 hours 40 minutes

FGD–1 (A): Mohammad Abdullah (52 years)

Mohammad Abdullah is a retired government officer who served for 30 years in the Department of Social Services. He currently resides in Mohammadpur, close to several artisan settlements. Since retirement, he has been actively volunteering with heritage preservation groups, contributing his administrative experience and local knowledge to community-based cultural initiatives.

FGD–1 (B): Nomita Bala (45 years)

Nomita Bala is a school teacher with 17 years of teaching experience, primarily in urban marginalized communities. She currently leads a government primary school where approximately 40% of enrolled students come from artisan families. She is a member of

the Upazila Education Committee and remains actively involved in parent–teacher associations, particularly focusing on reducing school dropout among artisan children.

FGD–1 (C): Abdul Matin (48 years)

Abdul Matin is a small business owner who has been running a hardware and metal supply shop in Lalbagh for the past 25 years. He serves as a regular supplier to around 15–20 artisan families and is a member of the Lalbagh Business Association. In addition to commercial support, he provides informal credit to artisans during periods of low income.

FGD–1 (D): Salma Khan (41 years)

Salma Khan works as a Project Coordinator with the Bangladesh Craft Development Foundation. She manages skill enhancement and livelihood programs targeting artisan communities. She holds a Master’s degree in Development Studies from the University of Dhaka and has 12 years of professional experience in development and livelihood-focused projects.

FGD–1 (E): Rajib Ahmed (37 years)

Rajib Ahmed is a journalist working as a cultural reporter for The Daily Star. He has published a series of articles documenting the decline of traditional crafts in Bangladesh. In 2022, he curated a photography exhibition highlighting the everyday lives and struggles of artisan communities.

FGD–1 (F): Ayesha Begum (55 years)

Ayesha Begum is a community health worker affiliated with the BRAC health program in Mohammadpur. She has 18 years of experience in community health services and regularly conducts monthly health camps in artisan settlements, focusing on preventive care and health awareness.

FGD–1 (G): Jamal Hossain (50 years)

Jamal Hossain is the Ward Commissioner for the Mohammadpur area and has been involved in local governance for eight years. He is a member of the Standing Committee

on Social Welfare and oversees the distribution of government safety net programs such as VGD and VGF within his ward.

FGD–1 (H): Sazzad Hossain (44 years)

Sazzad Hossain is a Lecturer in Sociology at Dhaka City College. His research interests include urban informal economies and craft-based livelihoods. He regularly supervises student fieldwork in artisan communities and has published two academic papers on livelihoods associated with traditional crafts.

FGD 2 – Conducted in Rajshahi (Durgapur Union Parishad Hall)

Duration: 2 hours 55 minutes

FGD–2 (A): Anwarul Islam (58 years)

Anwarul Islam is a retired headmaster of Durgapur High School. He has 35 years of teaching experience in rural Tangail and is currently serving as the president of a local library and cultural club. He actively mentors' children from artisan families, supporting their educational continuity and cultural engagement.

FGD–2 (B): Nurjahan Begum (49 years)

Nurjahan Begum works as an NGO Coordinator and has 15 years of professional experience with bell metal artisan communities. She has gained international exposure through participation in craft fairs and is trained in fair trade certification processes, enabling her to support artisans in accessing ethical markets and improved trade practices.

FGD–2 (C): Bimal Chandra Roy (62 years)

Bimal Chandra Roy is a wholesale trader and a third-generation businessman in the bell metal trade. He supplies products to retailers across Bangladesh and employs more than 30 artisan families on a contract basis, positioning him as a key actor in the bell metal value chain.

FGD–2 (D): Khadija Akhter (46 years)

Khadija Akhter is a medical officer working at the Upazila Health Complex. With 18 years of medical service in rural areas, she has a special interest in occupational diseases affecting artisans. She conducts free medical clinics for artisan families on a quarterly basis.

FGD–2 (E): Harun-ur-Rashid (51 years)

Harun-ur-Rashid is an Agricultural Extension Officer with the Department of Agricultural Extension in Tangail. His work primarily involves farming communities located adjacent to artisan settlements, allowing him to observe the interconnections between agricultural livelihoods and artisan economies.

FGD–2 (F): Sharmin Akter (39 years)

Sharmin Akter is a journalist and serves as the Tangail correspondent for Bangladesh Protidin. Her reporting focuses on rural economy and culture. She has produced a documentary film on bell metal craftsmanship and maintains regular interaction with artisan communities through her professional work.

FGD–2 (G): Abdul Khalek (44 years)

Abdul Khalek is a bank employee with 14 years of experience in the financial sector. He oversees small enterprise and agricultural loan portfolios and is familiar with the processes of artisan credit applications, including the challenges and frequent rejections faced by artisan borrowers.

FGD–2 (H): Pradip Chandra Das (60 years)

Pratap Chandra Das is a temple priest and respected community elder. He has been serving at a historic Shiva temple in Rajshahi, which is a major purchaser of ritual brass items produced by artisans. Having lived in an artisan neighborhood for 40 years, he also plays a key role as a mediator in community disputes.

Section B2: Thematic Analysis of FGD Data

6.3.1 Social Status and Community Perception

Participant Narratives:

Participants consistently described brass and bell metal artisan families as occupying a distinct social niche—respected for their specialized skills but often marginalized in broader social hierarchies.

FGD1(H), the teacher, articulated this paradox:

“In our social structure, they occupy what I call the ‘skilled periphery.’ They are essential for cultural and ritual functions—every temple needs bells, every wedding need brass utensils—yet they rarely enter mainstream social spaces. Their homes are visited for work, not for socializing.”

Perceptions of Occupational Identity:

The identity of artisan families is deeply intertwined with their craft. Participants noted that across generations, family names became synonymous with their occupation “Kansari” (brass worker), “Mistry” (craftsman), or simply “Shilpi” (artist). This occupational identity often overrides individual identity in social interactions.

FGD2(C), the wholesale trader, observed:

“When I need work done, I don’t call them by name - I say ‘send the Kasari.’ Their skill defines them completely. This creates professional recognition but personal anonymity.”

Social Hierarchy and Ritual Status:

In rural areas particularly, participants described a complex ritual hierarchy where artisans, though not considered “untouchable,” face certain restrictions. Several Hindu participants noted that in traditional settings, artisans might not be invited to share food in upper-caste homes, though this is changing.

FGD2(H), the temple priest, explained:

“In religious matters, their hands that make divine idols are considered pure. Yet in social matters, old prejudices linger. They make the kalash (ritual pot) but may not be served water in the same pot at some homes. These contradictions define their social experience.”

Urban-Rural Variations:

Participants highlighted significant differences between urban and rural perceptions. In cities, anonymity provides some liberation from traditional hierarchies, while in villages, social positions remain more fixed.

FGD1(A), the retired officer, contrasted:

“In Dhaka, an artisan’s neighbor might not even know his occupation. In Tangail villages, everyone knows who is ‘Shilpi para’ (artisan neighborhood). Urbanization brings both freedom and alienation.”

Gender Dimensions:

Female artisans face dual marginalization—as women in a patriarchal society and as members of a skilled but low-status occupational group. Their work is often invisible, confined to supportive roles.

FGD1(D), the NGO coordinator, emphasized:

“Women do 60% of the polishing, cleaning, and finishing work but are never called ‘artisans’—they’re helpers. Their skill is unpaid family labor. Socially, they’re even more confined than men.”

Analysis:

The social status of artisan families develops as a complex bargaining between marginalization and value. Their craft provides a cultural capital and an economic necessity, but it does not generally provide them with a form of social capital, nor a political voice. Artisan families belong to a social category that could be defined as “respected but limited,” in that they are necessary but excluded, they have skills yet are subservient. These factors affect their social positioning in that they have limited opportunities to marry

outside of their own social group, have limited opportunities to participate in community leadership positions, and have internalized their subordinate status. Nonetheless, all of the respondents identified changes in the last generation, specifically, that the younger artisans demonstrated a lack of adherence to traditional hierarchy.

Conclusion:

Families with craftsmen face ambiguity, in which they are both appreciated and devalued. That is, while one might suggest that, in the context of artisan family activity, there is no absolute deprivation, the context of their social position can be thought of in terms of conditional acceptance based on utility rather than equality. Social change initiatives must address the material as well as cognitive framework of both the artisan's view of self and the society's view of the artisan.

6.3.2 Residential Location, Living Environment and Basic Infrastructure

Participant Narratives:

Artisan settlements were consistently described as spatially segregated but functionally integrated within communities. Participants observed distinct residential patterns characterized by occupational clustering—artisans living in close proximity to facilitate collaboration, shared resources, and collective identity.

FGD1(C), the raw material supplier, mapped the spatial reality:

“In Lalbagh, they cluster in three main ‘paras’—Tantibazar, Shankharibazar, and Banglabazar areas. Each lane specializes—one for casting, one for engraving, one for polishing. Their homes double as workshops, so the whole neighborhood hums with hammering sounds from dawn till late.”

Housing Conditions and Workshop Integration:

The live-work model predominates, with 80-90% of artisan families operating from home-based workshops. Participants described typical dwellings as two-story structures with ground floors devoted to production and upper floors for living.

FGD2(F), the journalist, provided detailed observation:

“A typical artisan home in Durgapur has a front room with furnace and worktables, middle space for storage and semi-finished goods, and a back courtyard for washing and polishing. The family lives upstairs in 1-2 rooms. There’s no separation—metal dust everywhere, constant heat from furnaces, noise pollution affecting children’s study.”

Basic Infrastructure Deficits:

All participants highlighted severe infrastructure gaps. Three key deficits emerged consistently: inadequate sanitation, unreliable electricity, and absent waste management.

FGD1(F), the health worker, documented health implications:

“Most homes share communal toilets—one for 5-6 families. Water supply is irregular, so hygiene suffers. I’ve treated children with chronic diarrhea linked to poor sanitation. The worst is metal waste—acid wash water flows into open drains, contaminating groundwater.”

Environmental Hazards:

Workshop environments present multiple hazards: air pollution from coal furnaces and metal dust, thermal stress from constant heat exposure, chemical exposure from acids and polishes, and noise pollution from continuous hammering.

FGD2(D), the doctor, cited clinical evidence:

“In my free clinic, 70% of adult artisans have respiratory issues—bronchitis, asthma, silicosis. 40% have hearing impairment from decades of hammering without protection. Skin diseases from chemical exposure are common. These aren’t incidental—they’re occupational epidemics.”

Spatial Stigma and Real Estate Dynamics:

Participants noted that artisan neighborhoods often face real estate discrimination—property values remain low despite central locations, and redevelopment often displaces artisans without compensation.

FGD1(A), with governance experience, explained:

“In Dhaka’s development plans, artisan clusters are marked as ‘industrial’ or ‘commercial’ zones, not residential. This allows developers to push them out. They have no tenure security—many live on rented or informal land.”

Rural-Urban Contrasts:

Infrastructure deficits manifest differently across contexts. Rural artisans face distance from services while urban artisans face congestion and pollution.

FGD2(E), the agricultural officer, compared:

“Rural artisans have sufficient space to work but lack access to social services such as gas lines that allow for low-cost energy (they rely on coal, which is significantly more expensive) and drainage systems leading to standing water/sewer issues. In urban areas, artisans have access to many social services but little room (i.e., about 300 square feet for a family of six).”

Climate Vulnerability:

Settlements are particularly vulnerable to climate impacts—flooding in low-lying areas, extreme heat in congested urban lanes, and storm damage to fragile structures.

FGD2(B), the NGO worker, shared adaptation struggles:

“Last monsoon, 20 workshops in Tangail flooded. Tools rusted, raw materials spoiled. They lost 3 months’ income. No insurance, no disaster relief for informal workshops.”

Analysis:

The residential and environmental conditions of the families of artists are typically defined by urban planners as “cumulative disadvantage,” in that there are several different intersecting deficits which reinforce one another through the effects of poor housing on health; poor health on productivity; low productivity on income; low income on improvements to housing; thus, creating a cycle of “spatial” poverty. The patterns of

residence of artisan family's evidence both (1) practical necessity (the desire for clustering to take advantage of economies of scale) and (2) social exclusion (the result of spatial segregation). Although live/work models may be economically rational, they create significant public health challenges as well as compromises regarding quality of life.

Conclusion:

The city's artisan settlement areas have been identified as having an infrastructure crisis that calls for the implementation of comprehensive remedies. These interventions must comprise of measures that include secure tenure; modernizing workshops to eliminate hazardous materials; providing basic amenities to improve the quality of life; and remediating the environment from pollution. In this case, housing and occupational safety are inextricably intertwined.

6.3.3 Educational Access, School Experience and Social Acceptance

Participant Narratives:

Education has become into an ambiguous field that is both seen as a means of escape and limited by a number of obstacles. Participants stated that societal bias, institutional failure, and economic need interacted in a complex way.

Economic Barriers to Access:

The direct and indirect costs of education create formidable barriers. While government primary education is technically free, hidden costs overwhelm poor families.

FGD1(B), the school teacher, itemized the burdens:

“Uniforms: Around 800 taka. Books beyond free distribution: 500 taka. Exam fees: 200 taka. Transportation if school is distant: 300 taka monthly. Then there's opportunity cost—every day in school is a day not helping in workshop. For a family earning 15,000 taka monthly, these are impossible choices.”

School Experience and Peer Relations:

Artisan children face social distancing that begins subtly and intensifies with age. Participants described patterns of seating segregation, limited peer interaction, and occasional overt discrimination.

FGD2(A), the retired headmaster, recalled:

“In my school, children from artisan families often sit together, sharing a common understanding that their future is likely tied to their ancestral occupation. As a result, many of them show limited engagement with their studies. This attitude is further shaped by parental perceptions, as families often place less emphasis on formal education, believing traditional skills will remain their children’s primary livelihood.”

Gender Disparities in Education:

Girls face triple disadvantage—poverty, gender norms, and occupational expectations. Their education is often seen as low priority investment.

FGD2(F), the female journalist, highlighted consequences:

“The literacy rate of girls in this community is considerably lower than that of boys. Child marriage has become quite common here, especially among this group. Many families struggle financially and cannot afford to continue their daughters’ education. Parents are also worried about safety and feel that early marriage offers protection. At the same time, the community often stays socially isolated, which limits awareness and support. Because of these reasons, girls’ education is given less importance, and many leave school early, continuing the cycle of inequality and disadvantage.”

Seasonal Disruptions:

Education is intermittent rather than continuous, with attendance dropping sharply during peak production seasons (festivals, weddings) and harvest times when families need all hands.

FGD2(E):

“During monsoon (low craft work), attendance improves. During festival season (Durga Puja, Eid), workshops work day-night, children’s attendance collapses. Schools don’t accommodate these rhythms.”

Aspirations vs. Realities:

Despite barriers, educational aspirations remain strong, particularly among parents who see education as intergenerational escape route.

FGD1(C), the supplier and informal lender:

“I have seen many parents who are deeply committed to their children’s education. In some cases, they have even sold family jewellery to pay exam fees. As one parent told me, ‘I don’t want my child to breathe metal dust like I do.’ They do not necessarily reject the traditional profession, but they hope their children will study, gain skills, and use modern technology so they can work in safer and better conditions in the future.”

Analysis:

Although the circumstances surrounding the education of children of artisans may seem to be a matter of personal decision, the larger picture reveals that they are deeply impacted by structural exclusion. Most dropouts from school do not choose to leave, but rather do so because of poverty, social discrimination and inadequate support from institutions. A significant challenge for children of artisans involves the misalignment between the hours that schools are open and the seasonal patterns of production in artisanal work which, when unaligned, result in unpredictable attendance. Many education systems are designed to support either agricultural workers or urban service providers, but do not help craft-based families with their children’s education. Children begin to internalize narrow expectations for what the future holds for them, including their “proper” position in society, at a very young age. Yet, despite their unfavorable circumstances, many of them continue to aspire to a better education, presenting significant opportunity for targeted interventions that are contextually relevant.

Conclusion:

Educational inclusion is not something that can be done through small measures; it is a larger thinking that is required. There is a need to develop flexible models that can be adapted to the production cycles of the artisans, coupled with scholarships that can realistically cover the costs of education. Teachers should be able to identify their own biases and challenge them, while the curriculum should value the craft knowledge of the artisan. At the same time, there is a need to involve the parents through measures that consider their economic concerns and uncertainties. Education should not be portrayed as a means of escape from artisanal life, but rather a bridge that improves skills, dignity, and cultural heritage.

6.3.4 Occupational Dependency, Livelihood Pattern and Income Security**Participant Narratives:**

Artisan livelihoods represent a classic case of high skill with low returns. Participants described occupational patterns characterized by intergenerational transmission, technological stagnation, and market dependency.

Market Dependency and Monopsony Power:

Most artisans depend on 2-3 regular middlemen who exercise significant control over their livelihoods through advance payments, raw material supply, and exclusive purchasing.

FGD1(C), as supplier and informal creditor, described dependency relationships:

“The mahajan (trader) provides brass on credit and later buys the finished products at a fixed price. Until the debt is repaid, the artisan is not allowed to sell to anyone else. This arrangement traps artisans in long-term dependency, creating a situation that closely resembles bonded labor, even if it is not officially recognized as such.”

Informality and Lack of Social Protection:

Occupational informality means absence of all labor protections—no minimum wage, no sick leave, no accident compensation, no old-age pension.

FGD1(A), from governance perspective, highlighted policy gaps:

“They’re not covered under Labor Act, not recognized as farmers for agricultural benefits, not classified as industry for factory protections. They fall between every legal category—the ultimate informal workers.”

Gender Division of Labor and Valuation:

Production follows strict gender segregation, with highest value tasks (design, casting, engraving) reserved for men, and supportive tasks (polishing, cleaning, packaging) assigned to women, often unpaid.

FGD2(B), advocating for women artisans, challenged this:

“Women’s polishing determines final quality and price, yet it’s considered ‘helping’ not ‘work.’ If women stopped polishing for a month, the industry would collapse, yet they have no voice, no income recognition.”

Occupational Hazards and Health Costs:

Health risks constitute hidden production costs borne entirely by artisans and their families, reducing effective income through medical expenses and lost productivity.

FGD2(D), the doctor:

“Chronic bronchitis reduces working capacity by 30% after age 45. Hearing loss affects communication and safety. Chemical burns cause temporary disability. These are occupational costs that should be industry burdens but become family tragedies.”

Analysis:

The livelihoods of artisans embody what economists call “adverse incorporation” - being part of a system but on unfair terms. Artisanal skills are extremely valuable but not recognized as such by those who set prices. Passing on an occupation is a way to preserve cultural heritage but also passes on economic insecurity. This occupational identity is a

legacy and a limitation - an obstacle to diversifying livelihoods. The instability of artisans' income is structural - driven by festival patterns and monsoons - making it hard to save or invest.

Conclusion:

Sustainable livelihood development requires simultaneous interventions across multiple fronts: technological upgrading to improve productivity, market reorganization to increase value capture, financial products tailored to irregular incomes, social protection to reduce vulnerability, and gender restructuring to recognize women's contributions. Occupational excellence must be coupled with economic fairness.

6.3.5 Daily Lifestyle Practices and Household Organization

Participant Narratives:

The daily rhythms of artisan households reveal deep integration of production and reproduction, where economic activities permeate domestic spaces and family relations. Participants described lifestyles shaped by occupational exigencies rather than personal preferences.

Nutrition and Food Security:

Dietary patterns reflect both economic constraints and occupational demands. High-calorie but nutritionally poor diets predominate, with protein deficiency common.

FGD1(F), the health worker, linked diet to health outcomes:

“They eat rice, lentils, potatoes—cheap carbohydrates. Meat maybe once 15 days. Vegetables limited. Yet they need extra calories for physically demanding work. Result: energy for work but malnutrition for health.”

Health Practices and Healthcare Access:

Health management is crisis-oriented rather than preventive, with traditional remedies preceding formal healthcare due to cost and accessibility barriers.

FGD2(D), the doctor, observed treatment pathways:

“First: home remedy. Second: local pharmacy (often wrong medicine). Third: traditional healer. Fourth: my free clinic if available. Fifth: hospital only if near death. By stage five, conditions are often irreversible.”

Leisure and Social Recreation:

Leisure is minimal and gender-differentiated. Men may gather at tea stalls for brief socialization; women’s socializing occurs during collective work or water collection.

FGD2(H), the temple priest, noted community patterns:

“Men discuss work and politics at chai er dokan (tea stall) for 30 minutes daily. Women exchange news while washing utensils at tube well. These are not leisure but stolen moments within labor.”

Intergenerational Dynamics:

Households typically include three generations, with elders contributing child supervision and simple tasks, middle generation as primary producers, and children as learners/helpers.

FGD1(A), observing family structures, noted:

“Grandfather teaches design, father executes production, mother and daughters polish, sons learn and run errands. It’s integrated apprenticeship model but also limits children’s alternatives.”

Analysis:

Artisan lifestyles are an extreme form of adaptation to constrained conditions. What looks like ‘tradition’ is really an adaptation to economic necessity. The blurring of boundaries between work and life, though efficient from an economic point of view, has severe consequences for family life, child development, and personal health. Time poverty is revealed as an important constraint, especially for women. The juggling act between productive and reproductive roles leaves no time for rest, contemplation, or personal growth. Nutritional deficiencies are not caused by poverty alone, but by occupational mismatch - high physical demand and low-calorie intake. This leads to chronic energy depletion, which in turn leads to reduced productivity in a vicious cycle.

Conclusion:

Lifestyle improvements require addressing structural constraints, not just changing individual behaviors. Needed are: workshop-home separation to create domestic sanctuary, time-saving technologies (especially for women's domestic work), nutrition support programs tailored to occupational energy needs, preventive healthcare integration into community spaces, and protected leisure time as recognized right, not luxury.

6.3.6 Social Interaction, Cultural Participation and Community Engagement**Participant Narratives:**

Social relations of artisan families follow concentric circles of engagement—strong bonds within artisan communities, limited interaction with immediate neighbors, and minimal participation in broader community institutions. This pattern reflects both cultural cohesion and social exclusion.

Intra-Community Solidarity:

Within artisan settlements, extraordinary mutual support systems operate through kinship networks, occupational guilds (though informal), and neighborhood associations.

FGD1(H):

“If an artisan falls ill, others complete his orders and give him the income. If a furnace breaks, neighbors lend tools. Wedding costs are shared across 20-30 families. This is not charity but reciprocal obligation—today’s giver is tomorrow’s receiver.”

Marriage Practices and Social Boundaries:

Marriage remains largely endogamous (within artisan community), reinforcing occupational continuity and social boundaries. Inter-caste or inter-occupational marriages remain rare and socially challenging.

FGD2(H), who conducts many artisan weddings, explained:

“90% of marriages are within 20–30-kilometer radius, within same sub-caste of artisans. ‘Who else understands our work rhythms, our metal-stained hands?’ It’s practical but also perpetuates social isolation.”

Generational Changes in Social Patterns:

Younger generations show increasing aspiration for broader social integration, facilitated by education, media exposure, and urban migration.

FGD2(F), interviewing youth, reported changing attitudes:

“Artisan youth tell me: ‘We want friends beyond our para, we want to join cricket clubs.’”

Analysis:

Their strong bonding social capital makes up for their weak bridging social capital. However, it also reinforces separation. Similarly, cultural participation also shows a similar trend. Their craftsmanship is central to cultural expression; however, they are peripheral to cultural power. Political marginalization is not due to active exclusion but is a result of passive non-inclusion. They are not prevented from participating but lack the confidence and tradition of leadership to claim a space.

Conclusion:

Social integration requires conscious bridge-building initiatives that go beyond economic interventions. Needed are: mixed community platforms that bring artisans and non-artisans together around shared interests (sports, environment, education), leadership training to develop artisan community representatives, cultural recognition programs that celebrate artisans as culture-bearers not just producers, and inter-community dialogue to address unconscious biases. Social change must accompany economic development.

6.3.7 Experiences of Discrimination, Exclusion and Social Barriers

Participant Narratives:

While overt discrimination has decreased, participants described pervasive subtle exclusion operating through everyday interactions, institutional practices, and cultural norms. Discrimination is often invisible to perpetrators but palpable to victims.

Institutional Discrimination:

Formal institutions often unintentionally exclude through procedures requiring fixed addresses, formal documentation, or regular income—conditions artisans struggle to meet.

FGD2(G), the banker, acknowledged systemic barriers:

“Our loan forms ask: ‘Permanent address’—many artisans are migrants or live in informal settlements. ‘Regular income’—their income is seasonal. ‘Collateral’—they have none. The system isn’t designed to exclude them, but it does through standard criteria.”

Economic Exploitation:

Discrimination manifests economically through price discrimination (lower prices for their products), wage discrimination (lower pay for similar work), and credit discrimination (higher interest rates).

FGD1(C), the supplier, admitted market biases:

“Traders pay artisans 20% less than factory price for similar items, saying: ‘Your quality varies’ or ‘You have no brand.’ It’s not conscious discrimination but unconscious devaluation of handmade versus machine-made.”

Analysis:

Discrimination against artisans operates through multiple overlapping systems—individual attitudes, institutional procedures, cultural norms, economic structures, and linguistic frameworks. It’s rarely explicit “no entry” signs but rather cumulative micro-exclusions that create effective barriers. The normalization of discrimination makes it particularly

resistant to change—when unfair treatment becomes “just how things are,” it ceases to be questioned. Both perpetrators and victims may see it as natural rather than unjust. Internalized oppression represents perhaps the most profound barrier, as it transforms external constraints into self-limitation. When artisans believe they deserve less, they demand less, creating self-fulfilling prophecy of marginalization.

Conclusion:

To fight discrimination, a multi-faceted strategy is needed: legal action against overt discrimination, organizational change to eliminate covert hindrances, awareness campaigns to alter attitudes, empowerment initiatives to overcome internalized oppression, and affirmative policies to guarantee representation.

6.3.8 Migration, Mobility and Livelihood

Participant Narratives:

Migration represents both coping mechanism and disruption for artisan livelihoods. Participants described complex patterns of circular, seasonal, and permanent mobility shaped by push factors (poverty, lack of local opportunity) and pull factors (urban wages, diversified work).

Urban Migration and Occupational Shifts:

Younger artisans increasingly migrate to cities, often abandoning craft for construction, driving, factory work—jobs with steadier income but no skill utilization.

FGD1(E), says about documenting migrant stories, reported:

“In Mohammadpur slums, I’ve met former bell metal artisans driving CNGs or working garment factories. They earn similar money but lose craft skills. They say: ‘At least here I get paid every Friday.’ Regularity trumps vocation.”

International Migration Aspirations and Barriers:

While many artisans aspire to Middle East or Southeast Asia migration for higher earnings, they face prohibitive costs, documentation barriers, and recruitment exploitation.

FGD2(G), processing remittances, noted patterns:

“Artisan families rarely send members abroad—costs exceed 300,000 taka, requiring land mortgage they don’t have. Those who go are usually younger sons abandoning craft entirely. Remittances rarely reinvest in craft.”

Circulation vs. Settlement:

Most artisan migration is circular rather than permanent—temporary moves for income generation with eventual return. This maintains craft connection but prevents urban integration.

FGD1(H), studying migration types, differentiated:

“They’re ‘target migrants’—go, earn specific amount, return. Not ‘settlement migrants’ building new lives. This preserves village ties but limits accumulation. They’re perpetual temporary workers in cities.”

Psychological Impacts:

Migration creates divided identities—artisans in village, laborers in city. Participants described psychological stress from this duality.

FGD2(F) captured ambivalence:

“They say: ‘In Dhaka I’m nobody, just another poor worker. In village I’m respected craftsman. But Dhaka pays, village doesn’t.’ This tension between identity and income creates deep anxiety.”

Analysis:

Artisan migration signifies livelihood diversification under duress, not advancement. It is distress diversification for survival but detrimental to the long-term sustainability of artisan crafts. This balancing act is costly both psychologically and economically. The gender-differentiated impacts highlight the constraints: male migration adds to female burden but

does not enhance female control; female migration entails the abandonment of crafts due to gender typing in occupations.

Conclusion:

Migration management should focus on making migration less necessary by improving local livelihoods, and making migration more productive when it occurs through skills recognition, financial linkages, and return investment programs. Ideally, artisans should have choice—to migrate or not, to continue craft or shift—based on opportunity not desperation.

6.3.9 Access to Government and NGO Services

Participant Narratives:

Access to services reveals systemic disconnection between formal service systems and informal artisan realities. Participants described multiple mismatches in design, delivery, and eligibility that exclude even when inclusion is intended.

Documentation Barriers:

Service access typically requires ID cards, birth certificates, residency proof, income certificates—documents many artisans lack due to migration, informal residence, or cash economy.

FGD2(E), processing applications, explained:

“For vulnerable group feeding card, need voter ID, house tax receipt. Many artisans are seasonal migrants registered elsewhere. No tax receipt because house is informal. They’re eligible but can’t prove it.”

Government-NGO Complementarity Gaps:

Government provides entitlements (rations, allowances) while NGOs provide services (training, marketing). But gaps remain in productive support (technology, design, finance).

FGD1(A), from government perspective, acknowledged limits:

“Government gives safety nets—VGD, allowances. NGOs give capacity building. But who gives what they really need—market access, technology upgrade, design innovation? That gap remains unfilled.”

Digital Exclusion:

Increasingly, services require digital access and literacy—online applications, mobile banking, e-governance—creating new barriers for artisans.

FGD1(E), reported:

“Government scholarship now online application. Artisan children might not have smartphone, internet, or digital skills to apply. Digital inclusion becomes prerequisite for service inclusion.”

Analysis:

This is because service exclusion is a product of multiple intersecting barriers, including informational, documentary, spatial, temporal, design, attitudinal, and digital barriers. This is not pointing failure but rather a misfit between formal service delivery systems and informal livelihood realities. The distance between policy intent and ground realities is very high for artisans because their intersectional marginalization as poor, informal, and occupationally specialized workers puts them outside the normal beneficiary universe. The proliferation of NGOs without any coordinating mechanisms has led to the development of “project ecosystems” that offer relief but not systemic change. Artisans become “project beneficiaries” rather than “clients” because they move between projects rather than receiving support from a single service delivery system.

Conclusion:

Service inclusion requires system redesign not just better implementation. Needed: artisan-specific service windows with tailored eligibility criteria, mobile service delivery reaching

worksites, integrated one-stop centers combining multiple services, digital literacy bridges, social accountability mechanisms to prevent exclusion, and government-NGO-community coordination platforms. Services should adapt to artisans, not vice versa.

6.3.10 Coping Practices and Problem Minimizing Mechanisms

Participant Narratives:

Artisans demonstrate remarkable resilience through diverse coping strategies, though these are often short-term survival mechanisms that may undermine long-term security. Participants documented both adaptive and maladaptive coping practices.

Financial Coping: Informal Safety Nets:

Complex informal financial systems operate through rotating savings groups (somiti), advance payments against future orders, and kinship-based lending.

FGD1(C), described:

“We have ‘brass somiti’—20 artisans contribute 500 taka monthly, each gets 10,000 taka once yearly for big expenses. No bank, no paperwork, but 100% repayment. It’s microfinance without institutions.”

Analysis:

Artisan coping is an example of complex adaptive system, which has its strengths and weaknesses. The ingenuity and capability in extreme adversity are admirable, though many coping strategies have zero-sum or negative-sum outcomes. The social capital supporting mutual support systems is an asset and also a potential liability since it provides safety net but also discourages access to more substantial support from formal systems.

Conclusion:

Supporting artisans requires building on existing coping strengths while reducing need for harmful coping. This means: formalizing effective informal systems (savings groups, mutual aid), providing alternatives to destructive coping (affordable credit instead of

usurious loans, insurance instead of asset stripping), addressing gender disparities in coping burdens, and complementing (not replacing) community-based support with institutional safety nets.

6.3.11 Collective Responsibility and Pathways for Artisan Upliftment

Participant Narratives:

Participants emphasized that artisan upliftment requires shared responsibility across government, private sector, civil society, and artisan communities themselves. They proposed integrated pathways addressing recognition, resources, representation, and resilience.

Government Role and Policy Reforms:

Participants called for policy recognition of artisans as distinct occupational category deserving targeted support, not just generic poverty alleviation.

FGD1(G), from governance perspective, proposed specific measures:

“1. Include ‘traditional artisan’ as separate category in all social protection schemes. 2. Allocate khas land for artisan colonies with collective tenure. 3. Establish craft development board with artisan representation. 4. Provide tax holidays for artisan enterprises. 5. Integrate craft in school curriculum as heritage education.”

Private Sector Engagement and Ethical Business:

Businesses should move beyond exploitative relationships to ethical sourcing, fair pricing, design collaboration, and value chain transparency.

FGD2(C), a trader, advocated for industry responsibility:

“Traders like me must pay fair prices, provide advance payments without interest, share market information, invest in artisan skill upgrading. We profit from their labor—we owe them partnership not exploitation.”

Financial System Inclusion:

Banks need artisan-tailored products—loans based on skill/reputation not collateral, savings matching irregular cash flows, insurance covering tools and health.

FGD2(G), the banker, proposed innovation:

“Craft loans repayable after festival seasons, tool insurance premiums deducted from order payments, group guarantees replacing collateral, mobile banking reaching workshops. Current products exclude them; we need inclusion by design.”

Education System Integration:

Schools should value craft knowledge while providing general education, creating pathways for artisan children to become craft professionals not just laborers.

FGD2(A), Head teacher, advised:

“Primary schools in artisan areas should teach local craft history. Secondary should offer craft-design streams. Vocational institutes should upgrade traditional skills with modern technology. University should have craft entrepreneurship programs. Education should enhance, not erase, craft heritage.”

Media and Cultural Representation:

Media should move beyond poverty pornography to celebrating artisan skill, contribution, and potential, changing public perceptions.

FGD1(E), the journalist, committed to reframing narrative:

“Instead of ‘dying craft, poor artisans,’ we should show ‘living heritage, skilled entrepreneurs.’ Instead of pity, respect. Media can shape positive discrimination.”

Analysis:

Artisans have great cultural heritage which can be used for entrepreneurship and their experience can be of greater assistance to society as a whole. Therefore, it is necessary for those who are working with artisans to stop thinking in terms of welfare and only temporary

needs of artisans and instead start thinking in terms of development as it pertains to artisans. As artisans have systemic problems, any solution must involve working collaboratively with all stakeholders within the artisan ecosystem, including government agencies; market participants; civil society; and laboratories.

Conclusion:

Artisan upliftment requires integrated, multi-level, participatory strategy encompassing: policy recognition and protection, market fairness and opportunity, financial inclusion and innovation, education enhancement and relevance, health protection and prevention, social dignity and inclusion, organizational empowerment and agency. This is not short-term project but long-term societal commitment to valuing those who create beauty and meaning through their hands. As one participant summarized: “When artisans thrive, culture lives, community strengthens, economy diversifies, and society humanizes.”

CHAPTER VII: SUMMING UP THE RESULTS AND DISCUSSION

7.1 Introduction

7.2 Summing up the Results of the Quantitative Part

7.3 Summing up the Results of the Qualitative Part

7.4 Discussion of the Quantitative Part

7.5 Discussion of the Qualitative Part

7.6 Conclusion

7.1 Introduction

This chapter attempts to synthesize the findings of the quantitative as well as the qualitative components of the research to create a more comprehensive understanding of the livelihood situation of brass and bell metal artisans in Bangladesh. The quantitative part of the research provided statistical information on socio-economic characteristics, livelihood practices, assets, vulnerabilities, and adaptation strategies of the artisans in Islampur, Kagmari, and Dhamrai areas of Bangladesh.

In the qualitative part of the study, an attempt was made to understand the situation better with the help of focus group discussions with the stakeholders in the community. By bringing together the quantitative and qualitative aspects of the study, an in-depth understanding is attempted in this chapter with respect to the situation and challenges faced by the artisan communities in Bangladesh and their implications with respect to sustainable livelihoods.

Additionally, an attempt is made to understand the implications of the study with respect to the theoretical perspectives on sustainable livelihoods and social vulnerability theory, which emphasize the interconnectedness between assets and institutions with respect to livelihoods. This chapter tries to present a more nuanced understanding of the structural challenges facing the artisan community with the help of the findings from the quantitative as well as the qualitative aspects of the research and tries to generate more implications with the help of appropriate theoretical perspectives like the sustainable livelihood framework and the theory of social vulnerability that highlights the interconnectedness between assets and institutions with livelihood outcomes.

7.2 Summing up the Results of the Quantitative Part

Quantitative findings have brought to light some very important features concerning the socio-economic and livelihood status of the brass and bell metal artisans across the three study areas.

The demographic findings have revealed the sector to be dominated by males, with more than 90 percent of the artisans being males. It has also revealed the majority of the artisans to be from the Hindu community, especially in the Islampur and Kagmari areas, reflecting the historical and cultural association of the metal craft occupations with specific communities. Age distribution also indicates that the workforce is concentrated between the ages of 29 and 50 years in all locations. However, the Dhamrai area has a wider distribution of ages, including those less than 18 years old (12.9%) and those over 60 years old (4.3%). This could be a reflection of the presence of child laborers in the workforce as well as elderly workers who may not be able to retire due to lack of such facilities. Educational attainments are again low, with the majority either illiterate or only able to sign their names. Islampur has the worst educational attainments, with 37.1% illiterate and another 44.3% only able to sign their names. Dhamrai has the best educational attainments, with a significantly higher percentage (47.1%) having primary-level educational attainments and another 12.9% having secondary-level educational attainments. This could be due to the proximity of Dhamrai to the city.

The findings concerning the income levels have revealed the economic status of the artisan community to be very vulnerable. Monthly income distribution shows that the Islampur area has the lowest average income level, with 45.71% earning between BDT 11,000 and 20,000. However, the Kagmari area has a significantly higher percentage (38.57%) earning between BDT 21,000-30,000. Dhamrai has the most diverse income distribution, with the highest percentage (51.43%) earning above BDT 30,000. However, the overall stability of the income levels has revealed the artisans to have doubts about the sustainability of the income levels. Similarly, the type of housing is a reflection of this spatial hierarchy, where straw shed/muddy/teen is the dominant type of accommodation in Islampur (62.86%), whereas half-building is the most dominant type of accommodation in Kagmari (48.57%) and Dhamrai (52.86%). Similarly, the type of building is more reflected in Dhamrai (20.00%), indicating the economic success of artisans. Similarly, the perceptions of the quality of water and sanitation facilities are also consistent with the spatial hierarchy, where Dhamrai has the highest percentage of "excellent" ratings, whereas Islampur has the highest percentage of "poor" and "very poor" ratings.

Primary livelihood strategies indicate the specialization of artisans at different sites. Manufacturing is the dominant livelihood strategy in Kagmari (30 artisans) and Dhamrai (29 artisans), whereas Islampur has the highest percentage of artisans engaged in repair/maintenance services (12 artisans). Similarly, the ownership of the means of production is more reflected in the livelihood strategies of artisans in Kagmari and Dhamrai (18 each) compared to Islampur (10), indicating the capital accumulation of artisans. Similarly, the engagement of artisans with export markets is still very low at all the sites, where Islampur has the highest percentage of artisans (4), followed by Kagmari (3) and Dhamrai (2). Alternative occupation engagement indicates the vulnerable nature of artisanal occupations. In the case of Islampur, 33% of artisans engage in any available work, 26% in farming, and 20% as day laborers. In the case of Kagmari, the engagement in rickshaw/van pulling is 31%, along with various informal occupations. Dhamrai's case is the most striking, as 47% of artisans have no alternative occupation. This could imply that their livelihood depends on craft occupations or that the opportunities for diversification of occupations are limited. The number of days worked per week shows the irregular nature of craft occupations. The artisans of Islampur mostly work for 3 days a week (44%) or 2 days a week (37%), indicating severe underemployment. The case of Kagmari is more balanced, as 41% of artisans work for 4 days a week. Dhamrai's case is the most consistent, as 33% of artisans work for 5 days a week, while 27% work for 4 days a week.

Perceived access to raw materials is critical. Out of 110 artisans, 89 have "limited" access to raw materials, while 57 have "very limited" access. Skills and techniques show even more alarming trends. Skills and techniques show more alarming trends, where 97 artisans rate their skills as "limited" and 56 as "very limited." Social networking and collaboration skills are slightly more promising, where 84 artisans rate it as "moderate" and 48 as "high/abundant." Thus, it is possible that social capital may play a compensatory role for the lack of other resources. However, capital access is the most critical constraint, where 94 artisans rate it as "limited" and 57 as "very limited." On the other hand, only 8 artisans rate it as "exceptional." Similarly, the results for the access to machinery are alarming, where 105 artisans rate it as "limited" and 30 as "very limited."

The patterns for the sourcing of raw materials indicate the dominance of district/national-level suppliers. In all the locations, the district suppliers stand at 81, national suppliers stand at 71, while local suppliers stand at 34, with international/multiple suppliers standing at 24. This indicates that the artisans are part of a long chain of supply but experience difficulties accessing international markets. Financial sources for investment indicate a high dependence on personal savings for 46 respondents and personal loans for 30 respondents. Additionally, 164 workers reported no need for money since they were laborers.

Market demand analysis indicates contrasting trends in the different sales channels. Local market sales show predominantly low demand (147 instances), while the online platforms show balanced trends in demand (77 high, 90 moderate, 43 low). Export markets show moderate trends in demand concentration (87 moderate, 80 low), indicating scope for development in the export markets. Data on skill proficiency show the highest proficiency in casting (39), engraving (33), and joining/soldering (31), while the relatively lower proficiency is shown in marketing/selling (27) and patination/coloring (21).

Data on the sources of skill acquisition show the dominance of traditional methods of skill acquisition. Family tradition is the highest source of skill acquisition (107 instances or 50.1%), followed by apprenticeship (57 or 27.1%), training (39 or 18.6%), and self-teaching (7 or 3.3%). Data on participation in the workshop show significant spatial variation in the participation of artisans. Dhamrai artisans show the highest participation in the workshop (29 very often), while the lowest participation is shown by the artisans in Islampur.

In terms of vulnerability assessment, economic issues are felt acutely on various levels. Issues concerning competition from mass-produced goods were the most dominant, with 55% strongly agreeing. Issues concerning limited market reach and access were the next most dominant, with 52% strongly agreeing. Financial issues concerning raw material procurement showed 47% agreement and 31% strong agreement. Issues concerning the preservation of traditional techniques showed 48% strong agreement and 33% agreement. Issues concerning vulnerability to economic shocks showed 47% strong agreement. Issues concerning the lack of government support showed 33% strong agreement and 27%

agreement. These findings indicate that the artisans view their issues as systemic rather than personal.

In the social issues, spatial variations were also noted. Limited access to basic services was reported by 27.1% from Islampur, 28.6% from Kagmari, and 20% from Dhamrai. Marginalization and discrimination were reported by 14.3% from Islampur, 17.1% from Kagmari, and 15.7% from Dhamrai. Limited skill development opportunities were noted by 22.9% from Islampur, 30% from Kagmari, and 22.9% from Dhamrai. Issues concerning the decline of cultural recognition were noted by 11.4% from Islampur, 10% from Kagmari, and 17.1% from Dhamrai. Issues concerning dependence on seasonal demands were noted by 24.3% from Islampur, 14.3% from Kagmari,

Vulnerabilities in health and well-being point to the critical occupational health crises. Occupational hazards are reported at 61.43% in Islampur, 45.71% in Kagmari, and 41.42% in Dhamrai. Inaccessibility of health care is at 81.43% in Islampur, 80% in Kagmari, and 32.86% in Dhamrai. Lack of safety measures is at 54.29% in Islampur, 60% in Kagmari, and 61.43% in Dhamrai. Mental stress and anxiety due to irregular income is the most widespread at 95.71% in Islampur, 74.29% in Kagmari, and 67.14% in Dhamrai.

Various strategies are being adopted by the artisans to cope with the occupational health crises. Product diversification is the most widespread, at 27.14% in Dhamrai, followed by Islampur at 24.29% and then Kagmari at 22.38%. Collaborating with other artisans is less widespread but is more pronounced in Dhamrai at 8.10%. Skills training engagement is high in Kagmari at 14.76%, followed by Islampur at 11.43% and Dhamrai at 10.00%. Similarly, online marketing is more widespread in Dhamrai at 18.57%, followed by Kagmari at 17.62% and Islampuri at 13.81%. Government support seeking is more widespread in Dhamrai at 20.95% and Islampur at 20.48%. Community resilience involves 38 artisans working in the community, 47 in advocacy, and 13 in cooperatives, though 77 artisans remain less actively involved and 35 report receiving no support despite existing efforts.

7.3 Summing up the Results of the Qualitative Part

The qualitative study findings from the two Focus Group Discussions carried out among sixteen participants from diverse stakeholder groups have a rich contextual understanding of the social, cultural, and institutional factors affecting artisan livelihoods. The thematic study findings show patterns that affirm the quantitative study findings.

The study participants have consistently portrayed the social status of the artisan families as being in an ambiguous position in the social hierarchy. One of the participants described the artisan social status as being in the "skilled periphery," where the artisan is crucial in the cultural or ritual ceremonies but is excluded from the mainstream social events. Occupational identity is strongly embedded in the personal identity of the artisan. The artisan's family names have become synonymous with the artisan's professional identity, for example, "Kansari" for brass worker or "Shilpi" for an artist. The artisan's professional identity is thus strongly linked to their personal identity. The social status of the artisan is further complicated in the rural surroundings due to the complex hierarchy of the artisan's participation in the ritual ceremonies. Despite the ritual purity of the artisan's craft of creating divine objects, the artisan is socially restricted. In the rural settings, there is a complex ritual hierarchy, with artisans facing some social restrictions despite their ritual purity in creating divine objects. There were some urban-rural differences noted, with city settings creating an environment of anonymity and liberation from hierarchies, but at the cost of alienation from their communities. In terms of gender aspects, it is noted that women artisans experience dual marginalization as their contribution is not visible and is restricted to supportive roles despite their contribution to 60% of finishing tasks.

Spatial segregation and occupational clustering are characteristic features of artisan settlements, allowing for ease of collaboration and resource sharing, but also reinforcing social segregation. However, the dominant live-work model poses severe environmental health problems due to the high percentage of 80-90% of artisan families working out of their homes. Houses are designed with work and living areas undifferentiated, causing metal dust pollution, furnace heat, and noise pollution to affect all family members. Infrastructural deficiencies are widespread across all sites, including poor sanitation facilities, poor electricity supply, and the absence of waste disposal systems.

Environmental problems are represented by the presence of air pollution due to coal furnaces, chemical poisoning due to the use of acids and polishes, and thermal stress due to the constant presence of furnace heat. Evidence of the presence of occupational diseases among the artisans has been provided by the healthcare participants, including the prevalence of respiratory problems among 70% of adult artisans, 40% suffering from hearing impairment, and the presence of skin diseases due to the use of chemicals. Spatial stigma affects the housing market, with areas dominated by artisans suffering from discrimination and development-induced displacement without compensation.

Education is portrayed as an ambiguous concept that is both an aspiration and a source of frustration for artisan families. Economic barriers to education include economic costs like uniform fees (800 taka), books beyond the free books provided by the government (500 taka), examination fees (200 taka), and transportation fees (300 taka monthly). There is also the economic cost of the children's contribution to family workshops. Experiences of schools show that there is discrimination against artisans, with their children often sitting together with limited socialization with others and with limited prospects. There is also a high degree of gender inequality among artisans, with poor literacy rates among girls and high rates of child marriage as a consequence of the 'triple disadvantage' of poverty, gender inequality, and occupational inequality. Seasonal fluctuations cause intermittent schooling with school calendars that do not align with the production calendars of artisans. A propensity for higher educational aspiration among artisans, with many viewing education as an escape route from their current situation.

The livelihoods of artisans represent high skill with low returns. There is a strong element of intergenerational transmission of skill, technological stagnation, and market dependency. The majority of artisans are dependent upon 2-3 regular middlemen. These middlemen exercise considerable control over the artisans through advance payments, the supply of raw materials, and the sole purchasing arrangement. This resembles bonded labor. Occupational informality results in the exclusion of artisans from all labor regulations. There is no provision for the minimum wage, sick leave, compensation for accidents, or old-age pensions. The artisans are neither recognized as workers under labor regulations, nor as farmers under agricultural regulations nor as industrial workers under

factory regulations. There is a gender division of labor. Designing, casting, and engraving are done exclusively by men. Polishing, cleaning, and packaging are done exclusively by women. Occupational health costs are entirely borne by the artisans.

Daily rhythms in lifestyle demonstrate the high level of integration of production and reproduction, with economic activities being highly embedded in the daily life of the household. In the realm of dietary patterns, it is clear that the population has a high-calorie but nutritionally poor diet, with a high level of protein deficiency, especially considering the physically demanding nature of the work, which requires high energy. In the realm of health, it is clear that the population is focused on crisis management rather than prevention, with a progression from home remedies to local pharmacies to traditional healers to free clinics, and finally to hospitals, only in life-threatening circumstances. In the realm of leisure, it is clear that the population has limited time for leisure, which is gender-differentiated, with men socializing at the tea stalls for a brief time and women socializing during collective work or during the collection of water. Three generations are present, with the elderly contributing to the supervision of the children and the provision of simple assistance, the middle generation being the primary producers, and the children being the learners/helpers.

Social interactions occur in concentric circles of engagement, with high social bonding within communities through kinship networks and minimal interaction with neighbors and the community at large. Marriages within artisan communities remain endogamous, which increases social isolation while maintaining social boundaries and occupational continuity. The younger generation has increasingly developed aspirations to engage more with society at large through education, media consumption, and urban migration.

Migration patterns are complex, with circular, seasonal, and permanent movements of artisans influenced by push factors (poverty, lack of opportunities in their hometowns) and pull factors (urban wages, variety of work opportunities). Youths are migrating in increasing numbers to urban centers, giving up their craft work in favor of construction work, driving, and manufacturing work, where they earn a more assured income even though they do not utilize their skills in any way. Aspirations to move abroad are also high, though this is hindered by high costs (above 300,000 taka), documentation difficulties, and

exploitation by recruitment agencies. Circular movements are more common, where artisans maintain their craft links but do not settle in urban centers, thus failing to integrate into urban life and accumulate assets.

There is a systemic disconnect between the formal service systems and informal artisan systems. Documentation difficulties prevent artisans from accessing safety nets requiring ID cards, birth certificates, and receipts of payment of taxes, which informal artisans do not have access to. There is a complementarity gap in government and non-government organization initiatives, where productive support (technology, design, finance) is not addressed, while safety nets and capacity building are provided

Artisans are highly resilient with a variety of coping strategies, though these are largely short-term survival strategies, which are not in the best interests of their long-term security. Financial coping strategies include savings clubs called "somiti," advance payment of orders against future orders, and borrowing from relatives. Production-related coping strategies are diversification of tasks, flexible specialization, and labor sharing between households. Consumption-related coping strategies include altering their diet, reducing healthcare expenditure, and opting out of social responsibilities. Asset-related coping strategies are selling tools, mortgaging jewelry, and selling land. Child-related coping strategies are opting out of school, increasing work intensity of children, and marrying off their daughters.

It was also brought to light during this study that artisan upliftment is a matter of collective responsibility, and this includes the government, private sector, civil society, and artisans themselves. Government responsibilities include policy interventions to recognize artisans as a separate occupation category, allocation of "khas" land for artisan colonies, creation of a craft development board with artisan representation, giving tax holidays to artisan enterprises, and inclusion of craft in school curriculum. Private sector must offer ethical sourcing, fair pricing, design collaboration, and value chain transparency. The financial system must offer artisan-tailored products like loans based on skills rather than collateral, savings that match irregular cash flows, and insurance for tools and health. The education system must recognize craft knowledge while offering general education, creating opportunities for artisan children to become craft professionals. The media must celebrate

artisan skills and contributions. It must shift from poverty stories to the recognition of living heritage.

7.4 Discussion of the Quantitative Part

Quantitatively, the findings shed light on the structural location of brass and bell metal artisans in the political economy of Bangladesh, with findings that echo the wider literature on the informal economy and livelihoods. Here, the findings are located theoretically and comparatively with the wider literature to discuss the implications for understanding the lives of artisans.

The preponderance of males among the workforce of artisans (ranging from 90-96%) underscores the phenomenon of "gender segmented labor markets," a phenomenon described by Elson (1999) to indicate labor markets where occupational segregation by gender is reproduced through both material necessity and the reproduction of gender ideologies. Clearly, the physically labor-intensive nature of working with metal contributes to the preponderance of males. However, as Kabeer (2012) suggests with respect to the gender division of labor in the garment industry in Bangladesh, the division of labor by gender is not merely a technical division but also a division that reflects the reproduction of social hierarchy. The absence of women's labor from the quantitatively derived findings (where women comprised merely 3-10% of the workforce) contrasts starkly with the qualitative findings that indicate women contribute to 60% of the finishing work. This distribution of ages, with concentrations among the 29–50-year-old population and limited representation among the under-18 or over-60 populations, points to what Chakravarty and D'Ambrosio (2006) term "truncated occupational trajectories," or craft work that does not appeal to younger entrants or sustain older workers. The presence of child workers (12.9% under the age of 18 in Dhamrai) and elderly workers (4.3% over the age of 60) among the urban site population points to both ends of the spectrum of dependency among workers. This corroborates Bourdillon (2010) observation that in the context of the informal economy, "child labour and elder labour often complement each other as strategies of survival among poor households."

The religious composition shows a majority of Hindus at all sites (61-79%), consistent with the historical pattern of caste-organized craft production in South Asia. As documented by Bayly (1999) in her research on caste and colonial governmentality, metalwork in Bengal had a historical association with particular jati groups (Kansari, Kamar, etc.), which integrated occupational specialization with ritualistic status positioning. The persistence of this religious composition into the contemporary Bangladeshi context, after six decades of the 1964 riots and subsequent Hindu flight, suggests the phenomenon of "the durability of occupational communities" described by Chatterji (2007). The appearance of Christian artisans only at Dhamrai (11.4%) may be indicative of the greater religious diversity of the urban site, perhaps due to colonial missionary networks or post-Partition religious minority concentrations in the Dhaka periphery.

Spatial Inequality and Uneven Development: The differential performance across the three sites-in particular, Dhamrai (urban periphery) consistently performing better than Kagmari (semi-urban) and Islampur (rural) across income, housing, education, and infrastructure variables-instantiates Harvey's (2006) theory of uneven geographical development under capitalism. Artisans located closer to Dhaka City take advantage of the agglomeration economies described by Krugman (1991) to the effect that the density of market networks, information sharing, and service availability are greater in urban areas. However, the Dhamrai data also reveals a greater level of income inequality, with the highest proportions both above 30,000 and below 10,000. This reflects the double effect of urban integration described by Piketty (2014) to the effect that while opportunities expand for the integrated, precariousness also increases for the non-integrated.

The housing gradient from the predominance of straw-shed/muddy settlements in Islampur (62.86%) to the half-building majority in Kagmari (48.57%) and Dhamrai (52.86%) can be related to the concept of "asset accumulation trajectories" as described by Moser (1998), where housing quality is both a marker and a determinant of poverty. Thus, the better the housing conditions, the higher the household income as well as the capacity to generate income through the provision of secure workshop space, the lesser the damage to productive assets from the weather, and the greater the access to credit through the provision of collateral. The water/sanitation gradient from the highest rating of 'excellent'

conditions in Dhamrai (25.71%) to the worst rating of 'poor/very poor' conditions in Islampur (37.15%) can be related to the concept of the 'infrastructure-poverty nexus' as described by UNDP (2006), where the lack of basic services adds to the economic disadvantage through health expenditures, time spent waiting in line, as well as dignity issues.

These spatial patterns are consistent with the capability framework articulated by Sen (1999), which highlights the importance of the "conversion factors" (personal, social, environmental) that individuals use to convert resources into valued functionings. While the rural artisans of Islampur may possess similar skills to those of Dhamrai, the conversion disadvantage of the former-worse roads, schools, health facilities-may mean that illness results in greater capability deprivation. Thus, the spatial hierarchy is more than just income differences; it is differences in the conditions for conversion.

The engagement in alternative occupations by artisans in different craft zones-in Islampur, artisans were heavily involved in day labor (20%) and farming (26%); in Kagmari, they were heavily involved in rickshaw pulling (31%); and in Dhamrai, artisans were predominantly craft specialized (47% no alternative occupation)-represents "diversification as adaptation" in rural livelihoods, a concept identified by Ellis (2000). However, it is critical to note the nature of diversification in livelihoods because it significantly affects their welfare implications. As Start and Johnson (2004) note, "diversification for survival" (many low-returning economic activities) is vastly different from "diversification for accumulation" (strategic portfolio management). As seen in the case of artisans in Islampur, where artisans were involved in whatever work they could find (33% in total)-this represents "survival diversification" driven by "push" factors and not "pull" factors, as identified by Harriss-White (2003), also termed "distress diversification" in contexts where artisans are not able to sustain their livelihoods through their primary occupation. The distribution of working days-with Islampuri artisans predominantly working 2-3 days a week (81% combined), Kagmari artisans having a concentration in 4 days a week (41%), and Dhamrai artisans having a concentration in 5 days a week (33%)-represents "chronic underemployment". As Deaton (2008) demonstrates in his analysis of

subjective well-being, income volatility may be more psychologically damaging than low average income, as uncertainty prevents planning, undermines security, and erodes hope.

This data on market demand, where local sales indicate a preponderance of low levels of demand (147 instances) while online platforms indicate a more balanced level of demand, points to "value chain governance" as Kaplinsky and Morris (2001) discuss it, where intermediaries play a key role in accessing markets and where the firm captures value. Local levels of demand are also influenced by saturation in the market (limited purchasing power) and competition from mass-produced goods (55% strong agreement with this challenge). Stronger levels of demand are indicated in the online data, suggesting a "fortune at the bottom of the pyramid" as Prahalad (2005) discusses it, where artisans' wares are seen to have some appeal to consumers, but artisans lack the digital literacy and marketing skills to reach these consumers. This capital constraint is particularly severe and echoes Banerjee and Duflo's (2011) discussion of "poverty traps" wherein the poor are denied credit because they lack collateral, cannot gain collateral because they lack credit, and cannot escape the cycle without external intervention. The financial source data shows that while 46 used personal savings and 30 used personal loans, a staggering 164 workers required no money at all to enter the business, highlighting the division within the artisan community between owners of businesses who need capital and workers who sell their labor.

The skill acquisition data, wherein family tradition was the dominant method of acquiring skills (50.1%) with apprenticeship a close second (27.1%), while formal training was used by only 18.6%, echoes Lave and Wenger's (1991) discussion of "legitimate peripheral participation" within communities of practice. This method of skill acquisition ensures cultural continuity but may not be as effective at ensuring innovation and adaptation to changing markets as more formalized approaches to skill acquisition. As Fuller and Unwin (2003) note in their discussion of apprenticeship as a model of skill acquisition, practice-based learning without any theoretical input can result in the perpetuation of outdated techniques and workers' inability to innovate in response, as they reproduce outdated techniques and limit workers' capacity to respond to technological change.

The vulnerability assessment data indicates various aspects of vulnerability that the artisans are exposed to. For instance, the exposure to competition from mass-produced products (55% strongly agree) can be related to the Marxian concept of the "destruction of domestic industry" that occurs in the hands of industrial capitalism. According to Marx (1976), the price advantage of machine production over hand production occurs despite the quality difference between the two. This has been documented in various craft industries around the world, including Indian handloom weavers (Roy, 1993) and Mexican pottery makers (Chibnik, 2003). The lack of market access (52% strongly agree) can be related to the concept of "buyer power" that Porter (1980) points out as one of the competitive forces that affects industry. This occurs when intermediaries exploit the fragmented craft industry. The financial constraint (47% agree, 31% strongly agree) can be related to the concept of the exclusion of the poor from the formal financial system, which could provide the required support to the craft industry to grow. The difficulty in preserving traditional techniques (48% strongly agree, 33% agree) can be related to the UNESCO (2003) report that points out the erosion of the "intangible cultural heritage" as younger generations abandon crafts for more remunerative occupations (Dercon, 2002).

The coping mechanisms data shows the ingenuity and limitation of the artisans' adaptive capacity. The product diversification (22-27%) can be seen as a form of "adaptive innovation" as described by Schumpeter (1934), which can be seen as a response to market signals. However, as Kaplinsky (2005) points out, this could be a way of spreading limited capacity over a large number of uncompetitive products. The collaborations (3-8%) are low due to the lack of "bridging social capital" as described by Putnam (1993) between the artisans and other relevant actors. The skills training engagement (10-15%) can be said to be low despite the general recognition of the skill constraint. This could be due to either demand- or supply-side issues. The online marketing uptake (14-19%) can be said to be promising, especially for Dhamrai with a uptake of 18.57%. However, the uptake could be higher given the opportunities that the internet presents. However, the uptake could be higher given the opportunities presented by the internet. The community resilience findings with 38 working on community projects, 47 on advocacy activities, and 13 working through cooperatives, but 77 not actively working on any activities and 35 not receiving

any support at all, highlight what Ostrom (1990) analyzes as the challenges of collective action for resource-poor groups.

7.5 Discussion of the Qualitative Part

This qualitative information offers a richness that helps to shed light on the mechanisms by which structural forces translate into the experiences of the artisans. Discussion here relates to theories used in sociology, anthropology, and development studies to understand the social-cultural-institutional dynamics expressed through participant's narratives.

Artisans are consistently positioned as being part of the "skilled periphery", illustrating Bourdieu's (2019) ideas about social space where individuals and groups can be identified in terms of economic capital, cultural capital (knowledge and skill), and social capital (social networks and status). Goffman (1963) describes how occupational identity is the primary means by which someone's personal identity comes across to another individual. This means that by focusing solely on one aspect of who you are (for example, your work), you can create a "spoiled identity" due to others only viewing you through this lens. Dirks (2001) critique of Dumont identifies the failure of some people in his critique to recognize how social identification based upon hierarchy is not a perpetually existing, cultural essence but has been created through colonial rule and post-colonial conflicts (such as leadership struggles). The gradual loosening of the traditional hierarchy described by participants is indicative of what Srinivas (1966) terms the "westernization" and "secularization" of the caste-based social organization, but this has occurred in non-uniform ways between rural and urban contexts.

Women doing 60% of the finishing work but never referred to as "Artisans" but as "Helpers" is an example of what Kabeer (1994) refers to as "Gender Blindness" in the definitions of work that systematically undervalue and invisibilize women's contribution to the economy. This is an example of what Benería et al. (2015) refers to as the ideological construction of "work" that excludes women's work in the home environment irrespective of their economic necessity or value. The unpaid nature of women's work in the home

workshop represents what Folbre (1994) refers to as "Intergenerational Transfers" where women's time is used to reproduce the household as well as the craft.

The concentration of artisans in their own paras (neighborhoods) represents what Massey and Denton (1993) refer to as "Residential Segregation" where disadvantage is concentrated but where community is created. The live-work model, being economically rational in terms of minimizing costs and maximizing the labor input of the family members, represents what Bullard (2018) refers to as "Environmental Injustice" where the artisan families suffer the consequences of the occupational hazards in their home environment-what Beck (1992) would analyze as the "distribution of bads" that accompanies the distribution of goods in industrial societies. The infrastructure gaps revealed-a lack of sanitation facilities, irregular electricity supply, no waste management-illustrate what Davis (2006) refers to as "planetary slum formation" where urbanization outpaces the development of infrastructure to the point where informal settlements must make their own way. The health issues revealed-70% of those experiencing respiratory issues, 40% suffering from hearing loss-illustrate what Krieger (2011) refers to as "embodied inequalities" where social disadvantage is literally embedded in the physical body as a result of differentials in exposure to occupational or environmental hazards. The lack of insurance or disaster response for informal workshops illustrates what Caney (2017) refers to as "climate injustice" where those who contribute the least to environmental degradation suffer the worst consequences of those degradations.

The educational exclusion factors of direct costs, opportunity costs, seasonal effects, and social discrimination represent what Bourdieu and Passeron (1990) conceptualized as cultural reproduction through the education system to disadvantage working-class children through mismatching expectations and the hidden curriculum. The clustering of the artisan children together, absorbing the narrow aspirations for the future, represents what Willis (2017) conceptualized as "learning to labor," where the working-class children come to realize their inferior position through the institutional education system as well as their peers.

The conflict between the aspiration for education (the parents selling their jewelry to pay for the children's examination fees) and the need for the children to work (the children

being needed in the workshop) represents what Sen (1999) conceptualized as the conflict between different dimensions of well-being. The phrase "I don't want my child to breathe metal dust like I do" represents what Appadurai (2004) conceptualized as the "capacity to aspire," the ability of the poor to have aspirations for their children's better future, even though their own aspirations for themselves are limited by their circumstances. This dichotomy of aspiration (parents selling jewelry to pay for exams) and necessity (children needed to work) represents the conflict between the dimensions of well-being described by Sen (1999): the value of education for its own sake versus the opportunity cost of education for the family's immediate well-being. The phrase "I don't want my child to breathe metal dust like I do" represents the "capacity to aspire," the ability of the poor to think about the future for their children, as described by Appadurai (2004). However, the aspiration seems to be for the children to be uninvolved with the craft rather than to enhance the craft, as would be described by the "invention of tradition" described by Hobsbawm and Ranger (1983). The reliance on two to three very few intermediaries (middlemen) who regulate advances, provide raw materials, and offer exclusive purchasing access fits what Harriss-White (2003) discussed as "adverse incorporation" in informal economies: integrating producers into markets on terms that systematically disadvantage producers. Being similar to bonded labor and not officially recognized as bonded labor (except for Neo-Bondage) demonstrates what Breman (2007) calls "neo-bondage," in which workers are indebted to a particular employer without formal contracts or legal protections, similar to bonded labor. The lack of all benefits of protection for all workers—no minimum wage, no sick leave, no unemployment benefits, and no pensions—represents Stains (2011)'s idea of the "precarariat," a developing class of worker that is defined by insecure work and lack of access to benefits.

The confusion about what category they fall into (not being considered farmers for agriculture policy; not being considered factory workers for labor laws; not being considered entrepreneurs for business assistance) is indicative of Chatterjee (2004)'s idea of "political society," which governs populations through exceptions and ad hoc arrangements instead of rights-based citizenship. Artisans are in what Roy (2003) calls the "informal economy," as a way of regulating informal economies rather than treating the informal economy as a residual category. The exclusion of artisans from legal protections

is not an accident, but rather a function of political economy designed to keep costs low, which makes it easier to accumulate wealth through capitalism.

The pattern of circular migration among target migrants with specific earnings goals rather than settlement migration among urbanizing migrants is an expression of what Stark and Bloom (1985) call the "new economics of labor migration" where migration is a household-level strategy to manage risk and credit constraints. Nevertheless, the psychological price of feeling like a "nobody" in Dhaka versus a "respected craftsman" in the village demonstrates the concept of "hybridity" as described by Bhabha (1994). The decision to leave the craft trade to work in construction, driving, or a factory reflects the concept of "downward assimilation" as described by Portes & Rumbaut (2006).

The gender division of labor that allocates the highest value labor to men and supportive labor to women, often without pay, is an expression of what Elson and Pearson (1981) call the "gender subordination" built into capitalist systems of production that appropriate surplus value from women's unpaid labor at home and undervalued wage labor outside the home. That the labor of women's polishing is critical to determining the final product's value and price but is not recognized as skilled labor is an expression of what Phillips and Taylor (1980) call the "social construction of skill," where the definition of skilled labor is as much a function of gender relations as it is skill level.

The informal financial mechanisms of rotating savings groups (somiti), pre-payments, and kinship credit highlight the "financial inclusion" that the poor create for themselves through informal mechanisms, as described by Arunachalam (2011). Similarly, the 100 percent repayment rates from informal savings groups stand in stark contrast to the default rates of formal microfinance institutions. These findings highlight the creditworthiness of the poor, as described by Yunus (1999). However, as Armendáriz and Morduch (2010) describe informal mechanisms, they also highlight the limitations of informal mechanisms, which cannot provide economies of scale or insurance against covariate risks for entire communities or trap the poor in a cycle of poverty.

The adaptive strategies of the poor also highlight the "creative responses" of the poor to their situations, as described by Chambers (1983). These findings challenge the commonly held view of the poor as victims of their situations. However, as Scoones (2009) reflects

on the sustainable livelihoods approach to understanding the poor, the celebration of the coping mechanisms of the poor can hide the need to change the situations of the poor. Adaptive coping strategies maintain the well-being of the poor, while maladaptive coping strategies undermine the future well-being of the poor. The development of community resilience programs, such as the 38 artisans engaged in community projects, the 47 engaged in advocacy, and the 13 working through cooperatives, represents what Putnam (2000) would call "bridging social capital" because it connects the artisans with other movements. However, the 77 less actively engaged and the 35 receiving no support at all, despite the efforts, represent what Olson (1965) calls the "collective action problem," where it is difficult to organize large groups where the benefits are widespread but the costs of participation are concentrated. To do this, there is a need for external catalysts, institutional support, and leadership development, which is still lacking.

7.6 Conclusion

This chapter has synthesized the quantitative and qualitative research findings related to the brass and bell metal craftsmen of Islampur, Kagmari, and Dhamrai in Bangladesh. The discussion indicates that the craftsmen hold a complex structural position that can be described as one of "skilled precarity" – possessing precious cultural and technical knowledge while facing severe economic insecurity, social marginalization, and institutional exclusion. The quantitative findings clearly indicate that the craftsmen located closer to the city of Dhaka (i.e., Dhamrai) report better outcomes on various parameters while facing severe income inequality. Severe asset poverty in the form of lack of access to capital, machinery, and formal skill training hampers the craftsmen's potential to upgrade their production techniques or respond to the changing demands of consumers. Underemployment is a critical issue in the lives of rural craftsmen who work only 2-3 days a week. This results in income poverty as well as psychological distress. This qualitative data shows how structural forces are translated into experience. Social positioning is ambiguous because artisans are valued for their skills but marginalized socially, their skills valued as culturally essential but devalued as economically insignificant. Residential

segregation is concentrated disadvantage that allows community formation to occur, which creates environmental injustice as families experience occupational hazards as home life. Educational exclusion perpetuates the intergenerational transmission of craft skills and poverty, which creates a tension between heritage and mobility. However, the results also point to the remarkable resilience and adaptability of the artisans. They have well-developed informal safety nets, such as rotating savings associations, reciprocal work arrangements, and family connections, which serve as a buffer against the lack of formal security measures. They diversify their goods, use online marketing strategies where possible, and seek training for skills development, including the opportunity costs. They hope for the best for their children's education, including the times when the children's labor is required. They hold cultural esteem for their work, even as the economic rewards dwindle.

CHAPTER VIII: RECOMMENDATIONS AND CONCLUSION

8.1 Introduction

8.2 Recommendations

8.3 Suggestions for the Future Research

8.4 Conclusion

8.1 Introduction

This chapter synthesizes and integrates the research findings collected during the study into suggestions and future concerns. The search for knowledge about the world of brass and bell metal workers has not only revealed their economic and structural problems but also their resilience, resourcefulness, and firm roots of tradition.

The recommendations being put forth here are based on the lived experience of these crafters. These are about re-invigorating institutional commitment, making equitable access to finance possible, supporting technological innovation, and ensuring cultural and environmental integrity of the craft. Perhaps no more important is articulation of artisan voices—their identity, aspirations, and dignity right to be part of the nation’s cultural economy.

At the same time, this chapter also looks to the future. It takes into consideration the need for greater participatory, empathetic, and inclusive research in the years ahead—research that listens carefully to the artisans themselves, the people behind the work. In asking how ahead, it hopes to encourage researchers, policymakers, and development practitioners to consider traditional craftspeople not as a relic of the past but as primary stakeholders in a sustainable and culturally rich Bangladesh of the future.

8.2 Recommendations

- **Institutional and Policy Considerations**

The findings of the present study reveal the brass and bell metal industry in Bangladesh as having multidimensional problems—ranges from having limited access to finance, inadequate policy implementation, and lack of technological innovation to facing declining intergenerational participation. It is imperative that institutional collaboration between government agencies, NGOs, and financial institutions be framed in a manner that takes these issues head-on. The government should strengthen enforcement of the

Handicraft Industry Policy (2015) and include the brass and bell metal industry within the SME Policy Strategy (2019) and Export Policy (2021–2024). Future efforts should focus on establishing specialized credit facilities and simplified loan procedures for artisans under the Bangladesh Bank’s CMSME and PKSf refinance schemes.

Artisan identity cards need to be introduced to ensure access to subsidy, insurance, and social safety nets. Proper coordination between institutions such as the SME Foundation, BSCIC, and Banglacraft can assist further in developing skills, design innovation, and product marketing. The National Craft Council of Bangladesh can be designed as a central coordinating institution for craft industries that will ensure systematic implementation, monitoring, and evaluation of artisan-related policies.

- **Market Development and Economic Empowerment**

Given artisans’ dependence on unstable local markets, the future steps must concentrate on diversification of market outlets and financial stability. Artisans need organized e-commerce, branding, and online marketing assistance to become part of modern markets. Utilizing e-commerce training modules and creating partnerships with marketplaces like Aarong, Daraz, and Etsy can open international avenues for trade.

Government-sponsored initiatives should also promote export diversification by attending international exhibitions, culture fairs, and heritage festivals. Local “Craft Clusters” in Dhamrai, Tangail, and Jamalpur can be established to channel investments and boost economies of scale with shared infrastructure, logistic hubs, and design centers.

At the same time, artisans have to be encouraged to experiment with value-added forms of production—like metal engraving, etching, enameling, and design mix—to make traditional crafts competitive. Cooperatives among artisans can increase their bargaining power and restrict exploitation by middlemen. The guilds could also

regulate raw material prices and obtain regular supplies of copper, zinc, and tin at modest prices.

- **Socio-Cultural and Educational Interventions**

The practice of brass and bell metal craft depends greatly on intergenerational transmission of skills. But as it is found in this study, the young generations are leaving the profession to find monetary security and no recognition. Due to the decline, schools, technical institutes, and universities can integrate vocational training for traditional crafts and cultural entrepreneurship. Integration of studies in metal craft in the national curriculum—especially technical and vocational education—can guarantee their survival.

Moreover, the establishment of craft museums and cultural documentation centers in Dhamrai and Tangail would serve a dual purpose: heritage preservation and tourism promotion. Craft bazaars, awareness programs, and community exhibitions can promote the cultural values of the artisans' products among young generations, and cultural diplomacy programs by embassies and cultural missions can market Bangladeshi metal crafts globally.

The government and NGOs should work together to create mentorship schemes that connect older artisans with apprentices. Such a mentorship structure will prevent the loss of indigenous skills and provide young people with employable prospects linked to culture-based economies.

- **Environmental Sustainability and Green Innovation**

The production of brass and bell metal goods generally involves environmentally degrading operations like metal smelting and chemical polishing. To determine the long-term sustainability of this craft, green production technologies are required urgently. Low-carbon and energy-efficient furnaces, technology for recycling waste,

and water treatment technologies should be promoted by research and development organizations.

Future activities should concentrate on green branding and eco-certification in order to make Bangladeshi metal crafts more competitive in overseas markets. Technical institutes and universities could play a vital role by collaborating with artisans in creating new eco-friendly production technologies that conserve not only the environment but also cultural integrity.

Secondly, as Bangladesh is prone to climate change, adaptive measures need to be built into artisan livelihoods such as climate-resilient workshops, disaster insurance coverage, and artisans being incorporated into national climate adaptation programs. This will ensure heritage industries align with the overall sustainable development agenda of the country.

- **Digital Transformation and Technological Innovation**

Digital technology may be incorporated into conventional work quite easily to boost productivity and transparency levels tremendously. Future policies need to ensure setting up a Digital Craft Portal for bringing together artisans, buyers, exporters, and policymakers. It will be a single-stop service center offering training, marketing, and logistics.

Computer-aided design (CAD) and 3D modeling integration in metal craft process can introduce modernity without compromising cultural purity. NGOs and government together can organize digital literacy initiatives to train artisans in digital storytelling, sales online, and photography. Artificial intelligence and virtual exhibitions can also be explored through research to promote heritage crafts with expanded outreach for artisans beyond geographical locations.

- **Gender Inclusion and Social Equity**

This study creates gender participation gaps between artisans and income distribution. Women lack access to decision-making and are excluded from credit and workshop ownership. Therefore, future initiatives must promote women's leadership and entrepreneurship in the brass and bell metal sector.

Rules need to mandate that at least 30% of training and financial schemes under SME or PKSf programs be reserved for women artisans. NGOs and cooperatives could establish women's craft collectives with shared working areas, children's care services, and protection measures. Moreover, research should examine the gendered nature of artisanal work—more critically, household production—to develop gender-sensitive livelihood strategies.

- **Strengthening Research and Academic Collaboration**

The research revealed significant knowledge gaps related to artisan livelihoods, especially in the form of quantitative data and longitudinal assessment. Comparative and mix-method design across regions and sectors of artisanship should be applied in subsequent research to conduct broader assessments. Longitudinal research can be employed to track socio-economic change within artisan households over time as well as assess the impact of policy interventions.

Joint research ventures between universities, government institutions, and global agencies like UNESCO, ILO, and UNDP can strengthen research capability. Collaborations may also stimulate knowledge sharing, resource mobilization, and scholarship exchange programs focused on sustainable craft development.

Furthermore, it is possible to have an Artisan Research Observatory serve as a one-point collection for data, results dissemination, and evidence-informed policymaking informing. Researchers can further explore confluences between sustainable tourism and heritage crafts, examining how heritage tourism is able to generate new livelihood possibilities and aid in local identity maintenance.

8.3 Suggestions for Future Research

While this research has explored the livelihood strategies and vulnerabilities of brass and bell metal artisans in Islampur, Kagmari, and Dhamrai, I recognize that it represents only a fragment of a much larger and evolving narrative. Fieldwork revealed not only data but also the emotions, struggles, and subtle resilience that mark the lives of these artisans. Future research needs to move beyond descriptive accounts, therefore, and more poignantly engage with the human stories behind the economic statistics and production figures.

For scholars in the future, expanding the geographical scope of the study would provide a fuller understanding of this craft tradition. The inclusion of other districts such as Bogura, Chapainawabganj, or Munshiganj—where there were similar crafts that once thrived—would enable one to follow the historical expansion and regional variations of brass and bell metal work. Longitudinal research following artisan households through the decades would also show how changing markets, modernization, and generational change alter their livelihoods and identities.

Future research also needs to be more gendered and participatory. During my own fieldwork, I often glimpsed women's labor hidden behind workshop doors—cleaning, polishing, and supporting production but themselves rarely named as artisans. Examining women's contributions and younger generations' ambitions would add an important facet to our understanding of intergenerational skill transmission and social transformation among artisanal groups.

Technological change offers another fruitful avenue. Researchers can investigate how artisans respond to digital marketplaces, product design innovation, and online promotion. How traditional craftsmanship encounters modern marketing and global consumerism may be a way to bridge heritage and entrepreneurship. Environmental sustainability is a further critical dimension—future research can address how eco-

friendly production, waste disposal, and energy-efficient processes can be incorporated into traditional practices.

On a personal level, this research experience has transformed me as a scholar and as an individual. Engaging with artisans taught me humility, patience, and respect for the dignity of manual labor. It reminded me that research is not merely about collecting information but about building relationships and trust. I hope that future researchers approach these communities with empathy, sensitivity, and a deep sense of wanting to portray their realities in a truthful manner.

Lastly, research in the future needs to strive to provide artisans with a louder voice, inform policy, and respect the living heritage that they embody—so their craft can continue to shine as a beacon of Bangladesh’s strength and cultural pride.

8.4 Conclusion

This thesis has journeyed through the lives, struggles, and enduring spirit of the brass and bell metal artisans in Bangladesh—particularly in Islampur (Jamalpur), Kagmari (Tangail), and Dhamrai (Dhaka/Savar). Through an interdisciplinary approach that combined cultural, and livelihood analysis, it explored how these craft communities navigate the challenges of modernity while holding on to centuries-old traditions. The thesis examined their economic realities, social vulnerabilities, adaptive strategies, and policy contexts, ultimately aiming to understand how heritage-based livelihoods can survive within an increasingly globalized and industrialized economy. Chapter 4 particularly highlighted that the brass and bell metal crafts are deeply embedded in cultural identity and economic livelihood as well as are core sources of identity as well as community pride for craftsmen while, at the same time, locating them within multiple layers of vulnerability. Economically, the artisans are hit by low earnings, irregular income, and little access to competitive markets as machine-produced commodities and imports increasingly replace their craftsmanship. Socially, the erosion of the old patronage structures and poor

community-based organizations have limited their collective power, and the alienation of the youth threatens the future of artisanal knowledge and skills. Further, health and environmental issues compound their calamities since unsafe working conditions, unsafe practices, and poisonous materials compromise their well-being, while environmental degradation also interferes with the supply of necessary raw material resources. Together, these mutually interdependent weaknesses underscore the tenuous equation artisans must navigate between guarding cultural heritage and sustaining economic livelihood in an ever-evolving socio-economic environment. Chapter 4 and 5 also elicited the resilience and adaptability of the artisans. Most have diversified their products, blending the traditional with the new to appeal to urban and foreign markets. Social networks, though still in limited use, are being gradually accepted as tools of promotion and exposure. Grassroots support and unofficial networks help artisans survive crises when state support is not forthcoming. Chapter 1 and 2 explores the history of the artisans instructs us about a paradox: modernization threatens traditional crafts but also offers an opportunity for transformation. Resilience is therefore not so much preservation but invention—the power to reinterpret tradition in a new world. This ambivalence between continuity and change is the very lifeblood of artisanal survival in today’s Bangladesh. One of the most important contributions of this research is to give directions for policy integration points: coordination of brass and bell metal industry under national development priorities, rural industrialization, cultural heritage, and women empowerment. Craft cluster strategies, digital marketing plans, and artisan cooperatives can be employed as tools for inclusive growth and sustainability. In addition to policy and economics, this study adds to an appreciation of the affective texture of craft life. Wherever I went to a workshop, I found the unspoken pride of craftspeople who still pour themselves into metal. What they do say is the deep dedication to the work—a dedication that exceeds economic necessity. One of the Tangail artisans summarized it in plain phrases: *“Our hands will not earn much, but they carry generations’ heritage.”* This emotional nature of craft articulates that heritage is more about people than things. The strength of the artisans as a community doesn’t come from diversified sources of income but pride of place. For them, work is livelihood and legacy.

Engaging with the artisans, listening to their stories, and witnessing their challenges prompted a profound reflection on how intertwined heritage and development are. This research came to be an inquiry premised on emotional humility and ethical engagement. It brought into perspective a valuable lesson—that research is greater than the act of watching; it is a two-way process premised on dialogue, trust, empathy, and respect. The artisans’ dignity, humor, and hospitality in the context of adversity re-established the trust in human connection not only as an academic scholar but as a citizen of a rich but fragile maintenance nation. The study bridges the gap between development economics and cultural studies by demonstrating that heritage industries are not a relic of the past but are proactive determinants of sustainable and inclusive futures. Although holistic in nature, this study was confronted with some limitations. The area of study was limited to three districts, and budget and logistics challenges deterred the scope of fieldwork. Secondly, since artisan work is unofficial, it was not easy to get authentic income or production data. In spite of such limitations, the strategy of triangulation enhanced the reality of findings, while qualitative observation enriched information beyond quantitative facts. The brass and bell metal craftsmanship potential depends on the ability of Bangladesh to retain tradition as well as innovation. Training the artisans, equipping them with technology and entrepreneurship will make that possible. In the future, future research can examine gender dynamics, intergenerational transmission, and the impact of online platforms on artisanal economies in greater detail. And the research suggests a reorientation of public imagination—rather than viewing artisans as dinosaurs, seeing them as prophets of sustainable futures. Creating alliances between communities and researchers and the creation of archives, museums, and design labs can conceivably close that gap between tradition and transformation. The question that initiated it: Can craft workers flourish in times of change? The answer, I think, is reassuring and cautionary. Reassuring—because Bangladesh’s production culture is strong and well-rooted in national identity. Cautionary—because if not reinforced by institutions and society’s acquiescence, this heritage can be lost to memory. Islampur, Kagmari, and Dhamrai craftsmen are situated at the intersection of yesterday and today, their hammers still echoing with continuity and change. Their work reminds us that development is not only about progress but about preservation; not only about income but about *meaning*.

REFERENCES

- Ahmed, F., Hossain, M. M., & Islam, S. (2019). Livelihood strategies of brass and bell metal artisans in Bangladesh. *Journal of Business and Tourism*, 4(1), 14–22.
- Ahmed, J. U., Rifat, A., Nisha, N., & Uddin, M. J. (2015). Deshi Dosh: The case on integration of ten rivals in the fashion industry of Bangladesh. *Decision*, 42(1), 87–103.
- ALBD. (2021). *Handicraft industry policy overview*. Bangladesh Awami League. <https://www.albd.org>
- Alam, S. M. M., Rahman, M. R., & Sultana, S. (2019). Livelihood strategy of brass and bell-metal artisans in Bangladesh: A study on Meherpur district. *Journal of Business and Technology (Dhaka)*, 14(2), 84–98.
- Anupom, I. (2017). কাঁসাপিতলশিল্প [Brass and bell metal industry]. *দৈনিক জনকণ্ঠ* [The Daily Janakantha].
- Balaswaminathan, S. (2018). *Casting selves: Tradition, practice, and ethics in an artisan community in India* (Doctoral dissertation, University of California, San Diego).
- Banerjee, A. K., & Moni, A. (2024). Sustainable tourism: A new perspective to modern tourism. *Journal of Emerging Trends in Interdisciplinary Studies*, 6(1), ST1–ST12.
- Banglacraft. (2024). *Annual report on handicraft export and training activities*. Dhaka: Banglacraft Secretariat.
- Banglacraft. (2024). *Annual report on handicraft promotion and artisan development*. Banglacraft.
- Bangladesh Bank. (2022–2024). *CMSME refinance schemes and policy guidelines*. Bangladesh Bank. <https://www.bb.org.bd>
- Bangladesh Bank. (2025). *Special refinance and credit enhancement initiatives for informal sector artisans*. Bangladesh Bank.
- Bangladesh Bureau of Statistics (BBS). (2022). *Survey on handicraft establishments*.

- Bangladesh Foreign Trade Institute (BFTI). (2020). *Sectoral study on handicrafts and cottage industries in Bangladesh*.
- Bangladesh Foreign Trade Institute (BFTI). (2023). *Sectoral study on handicrafts and export potential in Bangladesh*. <https://www.bfti.org.bd>
- Bangladesh News Gazette. (2025). *PKSF to provide free skill training to 12,000 low-income youth*.
- Bangladesh Post. (2023, July 18). Traditional bronze and brass industry on the verge of extinction in Tangail.
- Banglapedia. (2021). Brass and bell metal industry. In *Banglapedia: National Encyclopedia of Bangladesh*. <https://en.banglapedia.org>
- Banik, S. (2018). Dhamrai metal crafts: The saga of a rich cultural heritage. *ICH Courier*.
- Barman, B. (2021). Brass metal industry in Assam: An analytical study. *International Journal of Multidisciplinary Studies*, 10(8[3]). <http://ijmer.in.doi./2021/10.08.47>
- Baral, K. (2025). *Empire's backyard: Colonial modernity and Northeast India*. Taylor & Francis.
- Bardhan, A., & Bhattacharya, A. (2022). Role of traditional crafts in sustainable development and building community resilience: Case stories from India. *Culture. Society. Economy. Politics*, 2(1), 38–50.
- Behera, M. C. (2017). A study on brass and bell metal industries of Odisha. *Odisha Review*, November 2017, 90–96.
- Bonotulshi, D. (2017). *Chhaanch Nogori mold town: Revival of metal craft in Dhamrai, Bangladesh* (Doctoral dissertation, Brac University).
- Boote, D. N., & Beile, P. (2005). Scholars before researchers: On the centrality of the dissertation literature review in research preparation. *Educational Researcher*, 34(6), 3–15.
- Butler, L. D., Morland, L. A., & Leskin, G. A. (2006). Psychological resilience. *Psychol. Terror*, 400.

- Centre for the Promotion of Imports (CBI). (2022). *Market analysis of Bangladeshi handicrafts for export*. CBI, Netherlands Enterprise Agency. <https://www.cbi.eu>
- Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research* (3rd ed.). SAGE Publications.
- Dasgupta, S. (2025). *Three essays on artisanal production: Exploring topics on gender, caste and institutions* (Doctoral dissertation, Colorado State University).
- Debbarma, S. (2020). *A study on the socio-economic status of rural handicraft artisans in Hezamara RD Block West Tripura District, Tripura*.
- Desai, S. S. M. (2002). *Economic history of India* (pp. 19–20). Parbati Publishers.
- Deshmukh, D., Rajput, C. S., Das, S., & Alam, M. M. (2024). Sustainability and livelihood of small-scale handicraft producers in India: A SWOT analysis of Dhokra artisans. *Social Sciences & Humanities Open*, 10, Article 101160. <https://doi.org/10.1016/j.ssaho.2024.101160>
- DFID. (2000). *Sustainable livelihoods guidance sheets*. Department for International Development. http://www.livelihoods.org/info/info_guidancesheets.html
- Elphick, G. (1988). *The craft of the bell-founder* (pp. 78–81). Phillimore. ISBN 0-85033-6481.
- Financial Express. (2023, May 7). Challenges facing Bangladesh's traditional metal crafts industry. *The Financial Express*. <https://today.thefinancialexpress.com.bd>
- Ghosh, A., & Bhattacharya, T. (2023). Assessment of the issues and opportunities of the traditional brass and bell metal crafts of Birbhum District, West Bengal. *ShodhKosh: Journal of Visual and Performing Arts*, 4(2), 107–118. <https://doi.org/10.29121/shodhkosh.v4.i2.2023.572>
- Government of Bangladesh, Ministry of Industries. (2015). *Handicraft (Handicraft Industry) Policy 2015*. Government of the People's Republic of Bangladesh.
- Hart, C. (2018). *Doing a literature review: Releasing the research imagination* (2nd ed.). SAGE Publications.

- Hasan, M. H., Chowdhury, M. A., & Wakil, M. A. (2022). Community engagement and public education in northwestern part of Bangladesh: A study regarding heritage conservation. *Heliyon*, 8(3).
- Hashmi, T. (2022). *Fifty years of Bangladesh, 1971–2021: Crises of culture, development, governance, and identity*. Springer Nature.
- Hoque, S. F., Quinn, C., & Sallu, S. (2018). Differential livelihood adaptation to social-ecological change in coastal Bangladesh. *Regional Environmental Change*, 18(2), 451–463.
- Hossain, A. A. (2015). Contested national identity and political crisis in Bangladesh: Historical analysis of the dynamics of Bangladeshi society and politics. *Asian Journal of Political Science*, 23(3), 366–396.
- Hossain, M. A., & Salam, M. A. (2020). Livelihood strategies of brass and bell metal artisans in rural areas of Bangladesh. *Asian Journal of Management and Commerce*, 1(1), 1–8.
- Hossain, M. S. (2017). Livelihood challenges of bell metal artisans: A case study of Kumarkhali Upazila in Kushtia District, Bangladesh. *Journal of the Bangladesh Agricultural University*, 15(1), 72–77.
- Hunter, W. W. (1877). *A statistical account of Bengal*.
- Islam, K. N. (2011). Historical overview of religious pluralism in Bengal. *Bangladesh e-Journal of Sociology*, 8(1), 26–33.
- Islam, M. M., Islam, M. R., & Rahman, M. R. (2020). Vulnerability of brass and bell metal artisans in rural Bangladesh. *Journal of Agricultural Sciences and Natural Resources Management*, 7(1), 21–28.
- Islam, S. (Ed.). (2012). *Banglapedia: National encyclopedia of Bangladesh*. Asiatic Society of Bangladesh.
- Jaki, H. M. (2019, December 31). পৃষ্ঠপোষকতার প্রত্যাশায় কঁাসাশিল্প [Brass industry expecting patronage]. *দৈনিক প্রথম আলো* [The Daily Prothom Alo].

- Jena, S. K. (2013). Indigenous knowledge innovation (IKI) – An approach for sustainable SMEs in handicraft sector of KBK districts of Odisha.
- K. K. Mahato, P. C. Kalita, & A. K. Das. (2019). Design and development of affordable tool for metal handicraft. In *Research into design for a connected world* (pp. 371–379). Indian Institute of Technology Guwahati. https://doi.org/10.1007/978-981-13-5974-3_31
- Kawar, L. N., Dunbar, G. B., Aquino-Maneja, E. M., Flores, S. L., Squier, V. R., & Failla, K. R. (2024). *Quantitative, qualitative, mixed methods, and triangulation research simplified*. The Journal of Continuing Education in Nursing, 55(7), 338–344.
- Konark Institute of Science & Technology. (2015). *Bell & brass metal work losing its shine in Odisha*.
- Koul, S. (2024). *The foundations of Hindu thought: An examination of key scriptures across philosophy, ethics, and devotion*.
- Kumar, A. (2023). India's partition and the 'crisis of history' in the early postcolonial Punjab. *Journal of Sikh & Punjab Studies*, 30(2).
- Lv, Y., Sarker, M. N. I., & Firdaus, R. B. R. (2024). Disaster resilience in climate-vulnerable community context: Conceptual analysis. *Ecological Indicators*, 158, 111527. <https://doi.org/10.1016/j.ecolind.2023.111527>
- Mahbub, E. (2024). Unraveling Bangladesh's cultural evolution in the light of its Islamic Middle Ages: Bridging histories. *Journal of Asian and African Social Science and Humanities*, 10(1), 1–18.
- Mahmud, F. (1999). *Metalwork of Bangladesh: A study in material folk culture*. Indiana University.
- Mahmud, F. (2015). Metal crafts. In P. S. (Ed.), *Banglapedia: The national encyclopedia of Bangladesh*. Asiatic Society of Bangladesh.

- Maharana, S., Naik, M., & Mohanta, B. K. (2025). Flexible brass craft tradition of Bellaguntha, District Ganjam, Odisha: An anthropological analysis. *Man in India*, 105(1–2), 133–153.
- Mahmood, S. (2024). The long migration: Revisiting the postcolonial minority/refugee crisis and governance in East Pakistan. *South Asia: Journal of South Asian Studies*, 47(6), 1149–1169.
- Markowitz, S. J. (1994). The distinction between art and craft. *Journal of Aesthetic Education*, 28(1), 55–70.
- Matović, N., & Ovesni, K. (2023). *Interaction of quantitative and qualitative methodology in mixed methods research: Integration and/or combination*. *International Journal of Social Research Methodology*, 26(1), 51–65.
- Ministry of Commerce. (2021). *Export Policy 2021–2024*. Government of the People's Republic of Bangladesh.
- Ministry of Industries. (2019). *SME Policy Strategy of Bangladesh 2019*. Government of the People's Republic of Bangladesh.
- Morcom, A., & Raina, N. (2025). *Creative economies of culture in South Asia*. Taylor & Francis.
- Mukherjee, D. (2018). Investigating the technological aspects of bell metal with special reference to West Bengal. *Journal of Multidisciplinary Studies in Archaeology*, 6.
- Mukhopadhyay, R. (2021). Heritagising urban craft economy: Thinking with Chitpur Road, Kolkata.
- Palli Karma-Sahayak Foundation (PKSF). (2024). *Credit enhancement scheme for grassroots entrepreneurs*. <https://www.pksf-bd.org>
- Palli Karma-Sahayak Foundation (PKSF). (2025). *Integrated finance and development initiatives for artisans*. PKSF.
- PKSF. (2024). *Microenterprise financing and credit enhancement (MFCE) project*. <https://pksf.org.bd>

- Qadir, H., Wani, K. A., Islam, N. U., Kafkas, E., & Akgöl, C. (2025). Impact assessment of climate change and adaptation strategies in South Asia. *Environmental Claims Journal*, 1–30.
- Rahman, M. A., Ali, M. H., & Hossain, M. M. (2020). Constraints and challenges of brass and bell metal artisans: A study on Muktagacha Upazila in Mymensingh District, Bangladesh. *International Journal of Scientific & Technology Research*, 9(2), 3992–3997.
- Rahman, M. A., et al. (2022). Occupational safety practices among metal workers in Jamalpur. *Journal of Occupational Medicine and Toxicology*, 17(45).
- Rahman, M. S., Islam, M. R., & Khatun, F. (2020). Vulnerability assessment of brass and bell metal artisans in Bangladesh. *Asian Journal of Agriculture and Rural Development*, 10(1), 26–35.
- Reza, M. (2015). Cottage industry. In P. S. (Ed.), *Banglapedia: The national encyclopedia of Bangladesh*. Asiatic Society of Bangladesh.
- Ridley, D. (2012). *The literature review: A step-by-step guide for students*. SAGE Publications.
- Rowley, J., & Slack, F. (2004). Conducting a literature review. *Management Research News*, 27(6), 31–39.
- Saikia, Y. (2011). *Women, war, and the making of Bangladesh: Remembering 1971*. Duke University Press.
- Saha, A., Kumar, S., & Vasudevan, D. M. (2007). Occupational injury surveillance: A study in a metal smelting industry. *Indian Journal of Occupational and Environmental Medicine*, 11(3).
- Sandhya, H., Davisa, A., Varghesea, B., & Lakshmypriyab, K. (2024). The economics of market and inclusive growth in tourism: A narrative of rural artisans' socio-economic wellbeing.

- Sarkar, P. K., Kakoty, S. K., & Kalita, S. (2021). Bell metal product manufacturing techniques: A technical report from Sarthebari, Assam. *Journal of the Institution of Engineers (India): Series C*, 102, 629–634. <https://doi.org/10.1007/s40032-021-00673-z>
- Saudia, M. B., Kabir, F., Kaiser, F., & Kumar, S. (2025). Revitalizing traditional crafts, festivals, and cultural events: Evidence from Bangladesh. In *Technological innovation and AI for sustainable development in events and festivals* (pp. 37–53). CABI.
- Scribd. (2023). *Brass and bell-metal artisan problems in Bangladesh*.
- Sehnm, S., Campos, L. M. de S., Julkovski, D. J., & Cazella, S. C. (2020). Public policies, management strategies, and the sustainable and competitive management model in handicrafts. *Journal of Cleaner Production*, 276, 124119. <https://doi.org/10.1016/j.jclepro.2020.124119>
- Sharma, L. R., Bidari, S., Bidari, D., Neupane, S., & Sapkota, R. (2023). Exploring the mixed methods research design: types, purposes, strengths, challenges, and criticisms. *Global Academic Journal of Linguistics and Literature*, 5(1), 3-12.
- Singh, G., & Hashmi, T. (2024). Developing beliefs: The religious and cultural importance of metal craft in India. *Migration Letters*, 21(S7), 1713–1720.
- Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. *Journal of Business Research*, 104, 333–339.
- Southwick, S. M., Bonanno, G. A., Masten, A. S., Panter-Brick, C., & Yehuda, R. (2014). Resilience definitions, theory, and challenges: Interdisciplinary perspectives. *European Journal of Psychotraumatology*, 5(1), 25338.
- Taherdoost, H. (2022). What are different research approaches? Comprehensive review of qualitative, quantitative, and mixed method research, their applications, types, and limitations. *Journal of Management Science & Engineering Research*, 5(1), 53-63.
- Taheri, B., & Okumus, F. (2024). Conducting mixed methods research. *International Journal of Contemporary Hospitality Management*, 36(3), 995-1004.

- Talukder, M. B., Kabir, F., Kaiser, F., & Kumar, S. (2025). Revitalizing traditional crafts, festivals, and cultural events: Evidence from Bangladesh. In *Technological innovation and AI for sustainable development in events and festivals* (pp. 37–53). CABI.
- The Business Standard. (2023, September 12). Traditional metal crafts losing ground as artisans age. *The Business Standard*. <https://www.tbsnews.net>
- The Business Standard. (2025a). BB increases refinance scheme for small traders and low-income people to Tk 750cr.
- The Business Standard. (2025b). PKSF approves five-year strategic plan with Tk 11,000 cr loan target for FY 2025–26.
- The Daily Kaler Kantha. (2021, October 7). Kansha. Dhaka, Bangladesh.
- The Daily Prothom Alo. (2019, December 31). পৃষ্ঠপোষকতার প্রত্যাশায় কঁাসাশিল্প [Brass industry expecting patronage]. Dhaka, Bangladesh.
- The Daily Star. (2024). Handicraft makers struggling with capital shortfall: BBS survey.
- The Daily Star. (2025). Banks must allocate 27% of loans to SMEs by 2029: Bangladesh Bank.
- The Financial Express. (2022). Low export earnings due to weak patronage, skills, and innovation. <https://thefinancialexpress.com.bd/trade/low-export-earnings-for-poor-patronage-skills-innovation>
- Times of Bangladesh. (2025). New BB circular eases credit access for informal businesses: Experts.
- Uddin, S. M. (2006). *Constructing Bangladesh: Religion, ethnicity, and language in an Islamic nation*. University of North Carolina Press.
- Vertovec, S. (2000). *The Hindu diaspora: comparative patterns*. Psychology Press.
- Webster, J., & Watson, R. T. (2002). Analyzing the past to prepare for the future: Writing a literature review. *MIS Quarterly*, 26(2), xiii–xxiii.

APPENDICES

Appendix-1: Semi-structure Interview Questionnaire

Livelihood Strategy and Vulnerability of Brass and Bell Metal Artisans in Bangladesh

[Thank you for participating in our research. Your insights are invaluable in helping us understand the livelihood strategies and vulnerabilities faced by Brass and Bell Metal Artisans in Bangladesh. This questionnaire consists of both closed-ended and open-ended questions. Your responses will be kept confidential and used solely for research purposes. Please take your time to provide detailed and accurate information.]

Section 1: Demographic & Socio-economic Information

1. Gender:

- a) Male b) Female c) Other

2. Religion

- a) Islam b) Hindus c) Christian d) Others

3. Age:

- a) 18-25 b) 26-35 c) 36-45 d) 46-55 e) 56 and above

4. Educational Qualification:

- a) No formal education b) Primary education c) Secondary education
d) Higher secondary education e) Vocational training f) Bachelor's degree
g) Master's degree or above

5. How long have you been practicing brass and bell metal craftsmanship?

- a) Less than 1 year b) 1-3 years c) 4-6 years
d) 7-10 years e) More than 10 years

6. Are you a member of any artisan cooperatives or associations? If yes, please provide details.

.....

.....

- ## 7. Class of Occupation

- a) Owner b) Worker c) Shopkeeper

8. What is the primary source of water for your workplace?

- a) Piped water supply b) Well water c) River or pond water
d) Rainwater harvesting e) Other (please specify)

- ## 9. Quality of water and Sanitation

- a) Excellent b) Good c) Fair
- a) Poor e) Very poor

- ## 10. Health Issues due to working for Brass & Bell metal artisan

- a) Burns and scalds b) Neurological disorders Respiratory problems
- c) Lung cancer d) Back pain and spinal disorders
- a) Respiratory disorders f) Other (Please Specify.....)

- ## 11. Medication Strategies

- a) Local Pharmacy b) Quack c) Upazila Health Complex
b) MBBS Doctor e) Others (Please Specify.....)

Section 2: Livelihood Strategies

12. What specific types of brass and bell metal products do you create?

13. What are the main reasons for choosing brass and bell metal craftsmanship as a livelihood option?

.....

14. How Many days in a week you work in Brass or Bell metal craft?.....
15. Do you have any alternative occupation?>.....
16. How do you acquire the necessary skills and knowledge related to brass and bell metal craftsmanship?
- a. Formal training or education
 - b. Apprenticeship
 - c. Self-taught
 - d. Other (please specify)
17. What are the primary livelihood strategies you employ as a brass and bell metal artisan? (Select all that apply)
- a) Manufacturing and selling finished brass/bell metal products
 - b) Customization of products based on customer order
 - c) Repair and maintenance services
 - d) Participating in craft fairs and exhibitions
 - e) Collaborating with designers and artists
 - f) Exporting products to international markets
 - g) Other (please specify) _____

Section 3: The Assets and Capabilities of Brass & Bell Metal Artisans in Bangladesh

18. What assets and capabilities do brass and bell metal artisans in Bangladesh have for their livelihoods? Please rate the following aspects on a scale of 1 to 5, where: Exceptional[1], Abundant[2], Moderate[3], Limited[4], Very Limited[5].

Variables	1	2	3	4	5
Raw Materials					
Skill and techniques					
Social Networking					
Collaboration					

Capital,					
Machineries					

19. What is the main sources of raw materials for your craft?

- a) Local Suppliers
- b) District Suppliers
- c) National Suppliers
- d) Multiple Suppliers

20. What is the main sources of raw materials for your craft?

- a) Personal savings accumulated over time
- b) Personal Loan (Bank, NGO, & Financial Organization)
- c) Lending money on interest
- d) Grants from government or non-profit organizations
- e) No money required to invest (For Worker)

21. What types of skills and techniques for your craftsmanship?

- Hammering and Shaping
- Engraving
- Casting
- Joining and Soldering
- Patination and Coloring
- Embossing
- Marketing & Selling

How do you acquire?.....

22. How do you market and sell your products?

23. What assets and capabilities do brass and bell metal artisans in Bangladesh have for their livelihoods? Please rate the following aspects on a scale of 1 to 3, where: High Demand[1], Moderate[2], Low Demand[3].

Variables	1	2	3
Local markets			
Craft fairs/exhibitions			
Online platforms			
Export			

24. How do you determine the prices of product?

- a) Coast Based
- b) Market Based
- c) Competition-based

25. Confidence to the stability of income from brass and bell metal craft sales

- Very Confident
- Confident
- Neutral
- Not Confident

26. List the tools and equipment you use for your craft.....

27. Are you a member of any artisan associations or cooperatives? If yes, please provide details.

28. How do you perceive the support of your community in terms of preserving traditional craftsmanship?

Section 4: Vulnerability Assessment

29. Vulnerability Extent of Bell and Brass Metal Artisan. Rate the following factors on a scale of 1 to 5 (1 = Strongly Agree, 5 = Strongly Disagree):

Variables	1	2	3	4	5
Lack of government support for the artisan community					

Vulnerability to economic shocks (e.g., pandemic, economic downturns)					
Difficulty in preserving traditional crafting techniques					
Market demand fluctuations					
Lack of access to modern tools and technology					
Competition from mass-produced goods					
Limited market reach and access					
Financial constraints for raw materials procurement					

30. Extent of Social Vulnerabilities

- Limited Access to Essential Services
- Marginalization and Discrimination
- Limited Skill Development and Education
- Decline in Cultural Recognition
- Dependency on Seasonal Demand

31. Health and Well-being Vulnerabilities

- Occupational Hazards
- Limited Healthcare Access
- Lack of Safety Measures
- Mental Stress and Anxiety due to Irregular Income
-

Section 5: Coping Mechanisms

32. How do you adapt your production process during periods of low market demand?
33. Have you diversified your product range to cope with changing market preferences? If yes, please provide examples.
34. What steps do you take to manage risks during natural disasters or unforeseen circumstances?
35. What are the steps of community resilience to increase the coping mechanism?

Section 6: Recommendations

36. In your opinion, what kind of support or interventions would be most effective in reducing vulnerabilities faced by brass and bell metal artisans?
37. How can the government or NGOs assist in preserving traditional craftsmanship and enhancing artisans' resilience?

Section 7: Additional Comments (Optional)

38. Please feel free to share any additional information, insights, or experiences related to your craft and livelihood.

Thank you for your valuable participation! Your input will greatly contribute to our research.

Appendix-2: Interview Guideline for Focus Group Discussion (FGDs)

Introduction and Informed Consent Script (To be read aloud)

“Good morning/afternoon. My name is Hossain Mahmud, and I am a researcher from Institute of Social Welfare and Research, University of Dhaka. I am conducting a study on the livelihood strategies and vulnerabilities of brass and bell metal artisans in Bangladesh. Your valuable insights as community members who interact with or observe artisan families will greatly help us understand the broader social, economic, and environmental factors affecting their lives.

This discussion will last about 2.5 hours. Your participation is voluntary, and you may withdraw at any time. All responses will be kept confidential and anonymized. The discussion will be audio-recorded for accuracy, but your identity will not be disclosed in any reports. Do you consent to participate?”

[Wait for verbal consent]

Section A: Opening Questions (General Perceptions)

1. What comes to your mind when you hear the term “Kansari” or “Shilpi” (brass/bell metal artisan)?
2. How would you describe the relationship between artisan families and the rest of the community in this area?
3. In your observation, what are the most significant changes in the lives of artisan families over the past 10–15 years?

Section B: Livelihood Strategies and Economic Conditions

1. What are the main sources of income for artisan families in this community?

2. How do artisan families cope during periods when there is little or no demand for metalwork?
3. From your perspective, what are the biggest economic challenges facing artisan households?
4. How do artisans sell their products, and who are their main customers?
5. What role do women and children play in the family-based metalwork enterprise?

Section C: Social Positioning and Community Engagement

1. How are artisan families perceived in terms of social status within the village/neighborhood?
2. Are there social or cultural events where artisan families participate differently than others?
3. Have you observed any discrimination or exclusion faced by artisan families in daily life?
4. Do artisan children face any specific challenges in schools or educational settings?

Section D: Living Conditions and Environment

1. How would you describe the housing and living conditions in artisan neighborhoods?
2. What are the most pressing environmental or health concerns in areas where artisans work and live?
3. How do artisan families access basic services like healthcare, clean water, and sanitation?

Section E: Migration and Mobility

1. Do you know of artisan family members who have migrated for work, either seasonally or permanently?
2. What drives artisans to leave their traditional work and migrate to cities or abroad?

Section F: Access to Support and Services

1. What kind of government or NGO support have you seen reaching artisan families?
2. How effective are these programs in addressing the real needs of artisans?
3. What barriers prevent artisans from accessing formal financial services like bank loans?

Section G: Aspirations and Future Prospects

1. What aspirations do artisan parents have for their children's future?
2. Are younger generations interested in continuing the family craft? Why or why not?
3. What do you think could be done to make metalcraft a more attractive and sustainable livelihood for the next generation?

Section H: Recommendations and Collective Responsibility

1. From your perspective, what are the most important steps needed to improve the lives and livelihoods of artisan families?
2. What role can non-artisan community members like yourselves play in supporting artisan families?

Thank you for your valuable participation! Your input will greatly contribute to our research.

Appendix-3: The Informed Consent

To Whom It May Concern

It is my pleasure to certify that Hossain Mahmud, a student of the M.phil. program (Session: 2020-2021) of the Institute of Social Welfare and Research, University of Dhaka, is conducting his thesis entitled "Livelihood Strategy and Vulnerability of Brass and' Bell Metal Artisans in Bangladesh" under my supervision and guidance. This study is part of his academic requirements in the field of social welfare and development. In order to complete his thesis, he will be required to collect relevant information, literature, and data from concerned institutions and organizations. Please be assured that all information gathered will be used strictly for academic purposes only. Confidentiality will be maintained, and no data will be disclosed beyond the scope of his thesis work. In this regard, I kindly request your cooperation and assistance in facilitating him access to necessary information so that he may successfully complete his thesis work and achieve greater academic success.

Thanking you in anticipation,

Dr. Sk. Tauhidul Islam

Professor

Institute of Social Welfare and Research

University of Dhaka

Dhaka-1205