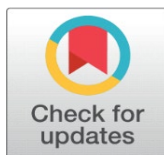
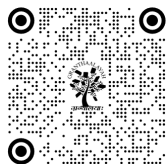


# ASSESSMENT OF THE ISSUES AND OPPORTUNITIES OF THE TRADITIONAL BRASS AND BELL METAL CRAFTS OF BIRBHUM DISTRICT, WEST BENGAL

Ashish Ghosh  , Dr. Tanima Bhattacharya  

<sup>1</sup> Research Scholar (Assistant Professor), Silpa-Sadana (Department of Design), Visva Bharati University Sriniketan, India

<sup>2</sup> Assistant Professor, Silpa -Sadana (Department of Design), Visva Bharati University, Sriniketan, India



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## Corresponding Author

Dr. Tanima Bhattacharya,  
[tani.bhattacharya1@gmail.com](mailto:tani.bhattacharya1@gmail.com)

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## ABSTRACT

In ancient India, various bronze/brass objects were found in a plethora of forms, such as coins, ornaments, inscriptions, utensils, traditional and artistic artifacts, and even weapons. In Indian tradition, design and fabrication were never separated. Artists and artisans were both considered as artists. People who traditionally work with metals are called Karmakar and those who work especially with brass and bell metal are known as Pital Karmakar. An initial literature review and reconnaissance surveys have aided to identify the issues and the prospects of sustainability associated with the brass and bell metal crafts of Birbhum as follows,

- Hand beaten brass-work is unique in shape and size, but the purpose of the material has transformed with rapidly with emerging technologies and changing markets
- As traditional objects, brass utensils used to be part and parcel of regular life, which attests to the shift in the taste and cultural habits.
- Studies suggests that rapidly emerging technologies, open market, and availability of comparatively cheaper materials (such as Aluminum, plastics, etc.) forwards a set of challenges to the traditional craftsmen to ensure sustainability.

Based on the studies on the real situation of the metal crafts in Birbhum district, it can be stated that, this sector, which was once the pride of Bengal, has been suffering for long. Therefore, the present paper attempts to identify and assess the issues and opportunities associated with the brass and bell metal crafts of Birbhum district and delves into extensive fieldwork to collect information from the real situation. The methodology includes library study, interaction with craftsmen, collection of information from Govt. establishments like MSME, NGOs working with this segment, statistical interpretation of data etc. Finally, the paper forwards a systematic, in-depth study on the traditional metal crafts in Birbhum that actually have enough potential to boost this sector and to uplift the rural economic scenario in the district.

**Keywords:** Brass and Bell Metal, Handicraft, Sustainability, Hand-Beaten Artwork, Traditional Craft

## 1. INTRODUCTION

The traditional brass and bell metal crafts of Birbhum District, located in the culturally rich state of West Bengal, have long been celebrated for their artistry and cultural significance. This time-honored craft has not only contributed to the region's cultural heritage but has also played a pivotal role in the economic sustenance of numerous artisans and craftsmen. In recent years, however, these

crafts have faced an array of challenges, ranging from limited market access to shifting consumer preferences, which have threatened their viability.

Since antiquity, varied brass/ bronze objects such as coins, inscriptions, utensils, traditional and aesthetic artifacts have been used. According to Indian artistic-cultural tradition, design and fabrication were never separated. Everyone was considered an artist, including artisans.

This present research aims to explore the intricacies of this craft and its current situation. By examining the difficulties faced by artisans and identifying opportunities this study aims to provide insights, on how to sustain and revive these cherished traditions.

The present paper concentrates on the metal craftsmen, known as *karmakars* in this artist community, who work with metal. This caste-based community is traditionally engaged in brass and bell metal works. They have adopted the method of making shapes by beating and hammering *kansa* alloy (Ratio- Copper: tin and zinc-7.3). Through ages, *kangsakars* have mastered the craft and associated traditional knowledge systems. The group of *kangsakars* used to make bronze or brass casts following the simple methods of die-casting. The present paper forwards a discussion on the issues and opportunities associated with the traditional process and practice of bell metal along with the mixed material work of Birbhum district of West Bengal.

### 1.1. MAKERS OF BELL METAL CRAFT: THE KARMAKARS

According to the Vedic scriptures, there are four strata in the society, namely, *Bramhins*, *Kshatriyas*, *Vaishyas*, and *Shudras*. People in the society were divided into four clusters based on their work and livelihood generation process. For example, the people of the *Bramhin* Community used to be priests, people of *Kshatriya* community were involved in warfare and defense. The people of the *Shudra* community were basically the laborers and craftsmen grouped according to their work, namely *Karmakar*, *Kumvakar*, *Tanti*, *Kumor*, *Muchi*, *Chutar*, *Dom*, *Bagdi*, *Bayen*, etc.

Figure 1



Figure 1 Exquisite Examples of Brass Utensils Showing the Output of the Bell Metal Technique  
Source Author

People who traditionally work with metals are called *Karmakar*. The *Karmakars* are also divided into some categories depending on which metal they are working

on, e.g., Iron Karmakar, Brass *Karmakar*, gold *Karmakar*(goldsmith), and *GhungurKarmakar*.

- **Loha (Iron)Karmakar (Blacksmith):** Iron Karmakars only work with iron metal. They traditionally made different types of products from iron using hand tools.
- **PitalKarmakar (BrassKarmakar):** Those who work with brass and bell metal and make different types of household products are called PitalKarmakar.
- **Swarnakar (Goldsmith):** Those who work with gold metal and make ornaments are called Swarnakar.

Figure 2



Figure 2 Glimpses of the Workshop of the Pital Karmakars

Source Author

The bell metal merchants generally carries the following surnames in the society such as; Mehatari, Kabiraj, Karmakar, Dey, etc. However, all of them belong to the same *Pital Karmakar's* community. Though extremely labour-intensive (refer to [Figure 2](#)), the rugged metal forms unique and beautiful shapes in the efficient hands of these skilled craftsmen. However, the artisans engaged in this craft have been facing different issues and challenges for a long time, and the contemporary market has worsened the scenario.

## 2. LITERATURE REVIEW

The brass and bell metal crafts of Birbhum district in West Bengal, India, have a long-standing cultural and historical significance. This literature review aims to explore previous studies and research papers to identify and assess the issues and opportunities associated with these crafts. The findings from this review will contribute to understanding the current challenges faced by artisans and the potential avenues for the growth and revitalization of these traditional crafts.

[Kumar and Sarkar \(2020\)](#) conducted a comprehensive case study on the challenges and opportunities for the traditional handicraft sector in India, with a

specific focus on brass and bell metal crafts. Their research provides a broader perspective on the sector and offers insights into strategies for sustaining and promoting these crafts. Likewise, [Chattopadhyay and Gupta \(2021\)](#) examined the socio-economic conditions of metal craftsmen in Birbhum district. Their study sheds light on the livelihoods and economic well-being of artisans engaged in brass and bell metal crafts, which is crucial in understanding the challenges they face and identifying potential opportunities for improvement. [Mukhopadhyay \(2018\)](#) analyzed the challenges faced by artisans and highlights potential opportunities for growth and development in the sector.

Additionally, [Roy and Banerjee \(2017\)](#) provide a nuanced understanding of the industry and offers insights into strategies for addressing the challenges and harnessing the potential of the crafts. [Sengupta and Chatterjee \(2019\)](#) conducted a study on the sustainable development of brass and bell metal crafts in Birbhum district. Their research emphasizes the importance of sustainability in preserving these crafts and explores ways to ensure their long-term viability. [Singh and Roy \(2018\)](#) examined the socio-economic challenges and emphasized the need for interventions to support their livelihoods. [Höjer et al. \(2011\)](#)

[Nandi and Dutta \(2022\)](#) examined the market potential, provides valuable insights into the market dynamics, and suggested for design variation to contest other readily available materials such as plastics, to ensure capturing market opportunities. [Bhattacharya and Chakraborty \(2019\)](#) conducted a study on craft cluster development and marketing intervention, specifically focusing on the brass and bell metal crafts of Bengal. Their research provides valuable insights into the challenges faced by artisans in terms of marketing and proposes design interventions to address these issues. [Srivastava and Gangopadhyay \(2021\)](#)

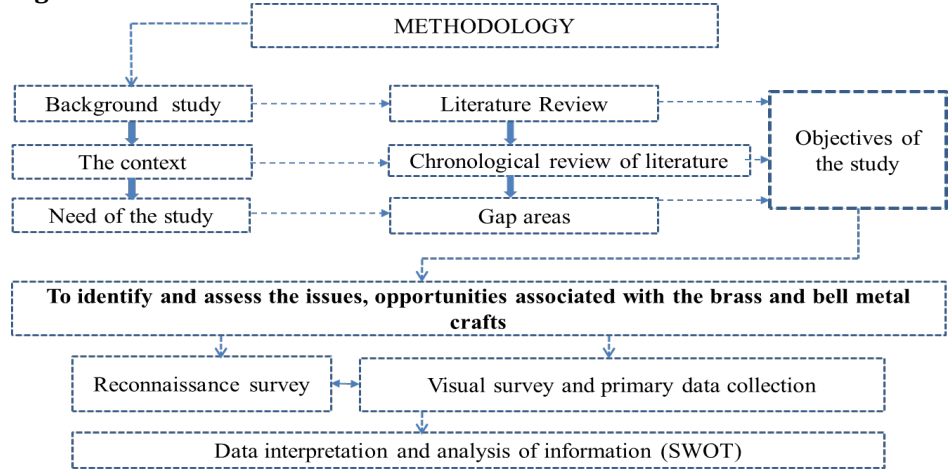
In conclusion, the literature review highlights the issues and opportunities associated with the brass and bell metal crafts of Birbhum district. The challenges of limited market access, declining demand, and technological advancements pose significant hurdles for artisans. However, the growing interest in traditional crafts, tourism development, and government support offer potential avenues for the growth and revitalization of these crafts. Understanding these issues and opportunities is essential for formulating effective strategies to sustain and promote the brass and bell metal crafts of Birbhum district. [Mohsini \(2011\)](#).

### 3. METHODOLOGY

The current paper investigates the real-life scenarios of the traditional brass and bell metal crafts of Birbhum district in detail. Initially, background study has been done to establish the context and the need of the study (Refer to [Figure 3](#)). Literature review has been done to identify the gap areas and therefore establish the objective of the present research.

Engagement surveys have been done to gather information from the actual scenario as the present research strives to identify and evaluate the problems and potential related to the brass and bell metal crafts of Birbhum district of West Bengal. The methodology involves library research, discussions with artisans, information gathering from governmental organizations like MSME and NGOs working in this field, deep engagement surveys, collection and statistical analysis of data, etc.

**Figure 3**



**Figure 3** Methodological Diagram Presenting the Steps Followed in the Present Research

#### 4. DATA COLLECTION AND INTERPRETATION

To identify the problems and opportunities associated with the brass and bell metal crafts of Birbhum district, the scores provided by the participants on the Likert scale have been analyzed.

##### 4.1. DATA COLLECTION

A set of data have been collected through deep engagement surveys. The data has been collected in 5-point likert scale. A group of 55 responses have been collected. A glimpse of the data set has been provided in [Table 1](#).

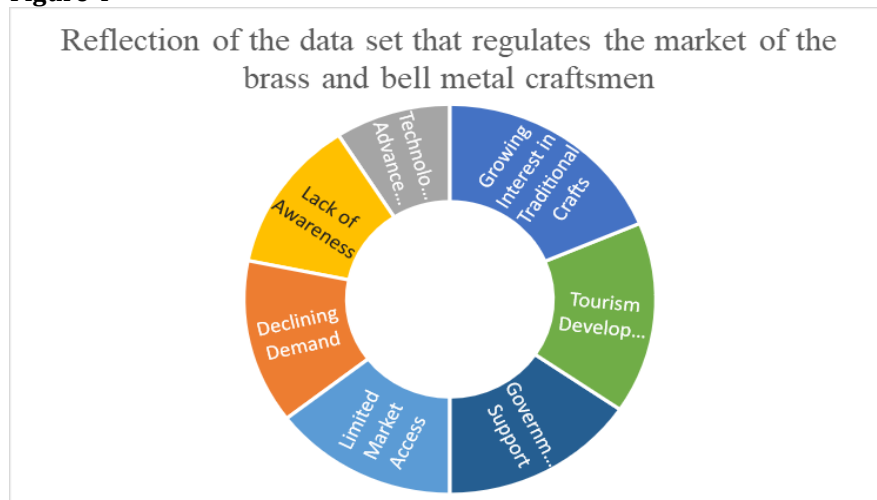
The possible reasons for the sharp decline in the demand graph for brass and bell metal utensils along with the possible opportunities associated were investigated and the respondents ranked the following reasons in a 5 point likert scale.

**Table 1**

**Table 1** Glimpse of the Data Set Collected Through Engagement Surveys on the Reasons Behind the Sharp Decline and the Probable Opportunities Associated with the Craft

No	Limited Market Access	Declining Demand	Technological Advancements	Lack of Awareness	Growing Interest in Traditional Crafts	Tourism in Development	Government Support
1.	4	3	2	3	5	4	4
2.	3	2	3	2	4	3	5
3.	2	4	1	3	3	2	4
4.	4	3	2	2	5	4	3
5.	3	2	3	4	4	5	2
6.	2	4	1	3	3	2	4
7.	4	3	2	2	5	4	3
8.	3	2	3	4	4	5	2
9.	2	4	1	3	3	2	4
10.	4	3	2	2	5	4	3

**Figure 4**



**Figure 4** Possible Reasons for the Sharp Decline in the Demand for the Brass and Bell Metal Craft of Birbhum

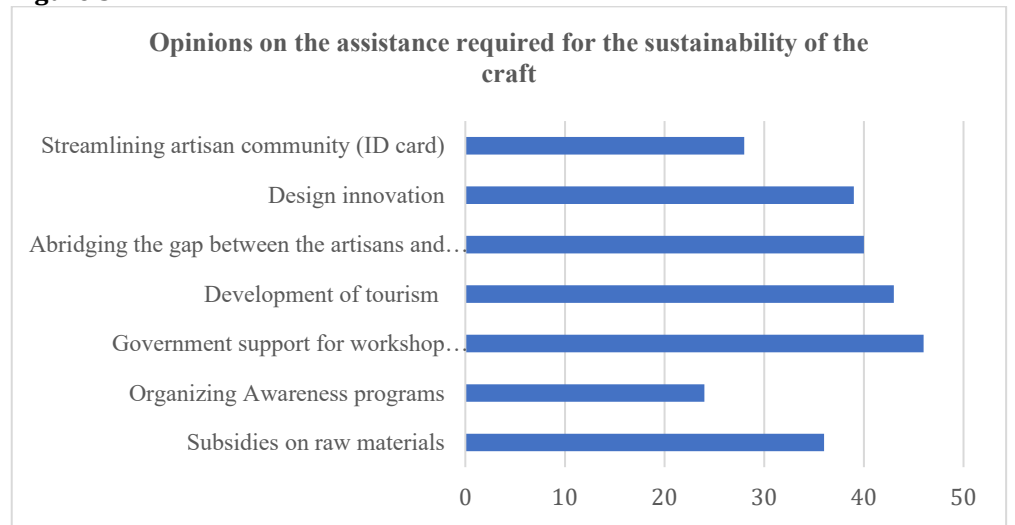
In this set of data, the Likert scale ranges from 1 to 5, with 1 indicating strong disagreement and 5 indicating strong agreement. The participants (identified by Participant ID) are asked to rate their perceptions of the different factors associated with the brass and bell metal crafts using the Likert scale. The factors include limited market access, declining demand, technological advancements, lack of awareness, growing interest in traditional crafts, tourism development, and government support. Each participant provided their ratings for each factor, and therefore, limited market access became the major hindrance for the craft, and gradually growing interest towards traditional craft came out as the major point of consideration.

**Table 2**

Table 2 Glimpses of the Data Collected in Deep Engagement Surveys on the Assistance Required by the Artisans for the Sustainability of the Craft							
No	Subsidies on raw materials	Organizing Awareness programs	Government support for workshop establishment	Development of tourism	Abridging the gap between the artisans and the markets	Design innovation	Streamlining artisan community (ID card)
1	3	2	5	4	5	4	4
2	3	2	4	5	4	3	4
3	3	1	5	4	4	4	3
4	4	2	5	4	4	4	2
5	3	3	5	4	3	4	3
6	4	2	4	5	4	4	2
7	5	4	5	5	3	3	2
8	5	3	4	4	5	4	2
9	3	3	4	5	3	5	3
10	3	2	5	3	5	4	3
<b>Total</b>	<b>36</b>	<b>24</b>	<b>46</b>	<b>43</b>	<b>40</b>	<b>39</b>	<b>28</b>

Following the understanding of the reasons behind the sharp decline and the probable opportunities associated with the craft, the research proceeds to investigate the assistance required by the artisans for the sustainability of the craft.

**Figure 5**



**Figure 5** Responses of the Artisans Regarding the Assistance Required for the Sustainability of the Craft

Table 2 shows a synaptic view of the data collected through engagement surveys. In surveys, government support for workshop establishment received the highest importance, followed by the development of tourism connecting the clusters and abridging the gap between the artisans and the markets, as is presented in Figure 5.

#### 4.2. ANALYZING THE DATA SET AND IDENTIFYING THE PATTERNS

The synaptic view of the data presented in Table 1 and Table 2 forward the following insights about the issues associated with the craft as,

**Limited Market Access:** The average rating for limited market access is 3.2, indicating that participants perceive this as a moderate problem. It suggests that there is room for improvement in terms of expanding the market reach for the brass and bell metal crafts in the Birbhum district.

**Declining Demand:** The average rating for declining demand is 2.8, suggesting that participants perceive this as a relatively moderate problem. It highlights the need to address the changing consumer preferences and find strategies to generate increased demand for traditional brass and bell metal products.

**Table 3**

**Table 3 SWOT Diagram Showing the Associated Strengths, Weakness, Opportunities, and Threats with Brass and Bell Metal Crafts of Birbhum**

Strength	Weakness
<ul style="list-style-type: none"> <li>Strong traditional connection</li> <li>Consolidated knowledge passed through generation</li> </ul>	<ul style="list-style-type: none"> <li>Limited Market Access</li> <li>Lack of Awareness</li> </ul>

• Age-old sustainable process	
Opportunities	Threats
<ul style="list-style-type: none"> <li>• Growing Interest in Traditional Crafts</li> <li>• Tourism Development</li> <li>• Government Support</li> </ul>	<ul style="list-style-type: none"> <li>• Declining Demand</li> <li>• Technological Advancements</li> </ul>

**Technological Advancements:** The average rating for technological advancements is 2.1, indicating that participants see this as a relatively minor problem. It suggests that while participants recognize the influence of technology on the craft sector, they do not perceive it as a significant obstacle to the brass and bell metal crafts in Birbhum district.

**Lack of Awareness:** The average rating for lack of awareness is 3.2, suggesting that participants consider this as a moderate problem. It indicates the importance of creating awareness among consumers about the cultural and artistic value of the brass and bell metal crafts to increase their demand and appreciation.

### 4.3. ANALYZING THE OPPORTUNITIES

Along with the identification of the issues associated with the craft, the possible interventions have also been identified from the data set presented in [Table 3](#), mentioned as follows,

**Growing Interest in Traditional Crafts:** The average rating for growing interest in traditional crafts is 4.3, indicating that participants recognize this as a significant opportunity. It suggests that there is a favorable trend in the market, with increasing interest among consumers in authentic and handmade crafts, which can be leveraged to promote the brass and bell metal crafts of the Birbhum district.

**Tourism Development:** The average rating for tourism development is 3.8, highlighting that participants perceive this as a valuable opportunity. It suggests that integrating the brass and bell metal crafts into tourism activities can provide a platform for artisans to showcase their skills and generate income by catering to tourists interested in cultural experiences and purchasing traditional crafts as souvenirs.

**Government Support:** The average rating for government support is 3.8, indicating that participants recognize the importance of government initiatives in supporting the brass and bell metal crafts. It suggests that policies providing financial assistance, skill development programs, and market linkages can play a crucial role in fostering the growth and sustainability of these crafts.

Based on the analysis of the data set, the problems associated with the brass and bell metal crafts of Birbhum district include limited market access, declining demand, and lack of awareness. On the other hand, the opportunities lie in the growing interest in traditional crafts, tourism development, and government support. Understanding and addressing these problems while capitalizing on the available opportunities can contribute to the growth and revitalization of the brass and bell metal crafts in Birbhum district.

## 5. MAJOR CONSIDERATIONS FROM THE ENGAGEMENT SURVEYS

Along with the data collection, deep engagement surveys have also been done to understand the unquantifiable scenarios. Engagement surveys with artisans forward the following insights:



- Competition from cheaper alternatives affects the demand for traditional crafts.
- Opportunities lie in the increasing interest in traditional and handmade products.

Hence, creating awareness, collaborating with designers, and innovative marketing strategies can help revive the craft (2011) along with financial support, skill development programs (2011), and marketing assistance from the government can be proven to be beneficial for the sustainability of the craft. Interviews with artisans added the need to adapt designs and techniques to meet modern demands that can attract new buyers and added that the lack of technological advancements in the craft affects customer preferences.

The above-stated points reflect the shared challenges of limited market access and declining demand for brass and bell metal crafts. The interviews also highlight opportunities to raise awareness, adapt to modern preferences, and receive financial and technical support from the government. These insights from the artisans' perspectives provide valuable input for formulating strategies and policies to address the issues and leverage the opportunities for the sustainable growth of the craft in the Birbhum district.

## 6. POLICIES AND RECOMMENDATIONS

Based on the data set and the identified issues and opportunities according to the artisans of Birbhum district, the following policies can be recommended to promote the sustainability of the craft,

***Development of Artisan Clusters:*** Establishing artisan clusters or craft villages where artisans specializing in brass and bell metal crafts can work together (refer to [Table 3](#)). These clusters can provide a conducive environment for knowledge sharing, collaboration, and collective marketing efforts.

***Skill Development Programs:*** Implementing skill development programs to enhance the craftsmanship and technical skills of artisans. These programs can include training in traditional techniques, design innovation, and product diversification to ensure the craft remains relevant and appealing to contemporary markets.

***Financial Support and Subsidies:*** Providing financial support and subsidies to artisans for procuring raw materials, tools, and equipment. This can help reduce their production costs and improve their overall profitability.

***Marketing and Market Access:*** Facilitating market access for artisans by organizing craft fairs, exhibitions, and trade shows both at the regional and national levels. Additionally, digital platforms and e-commerce initiatives can be developed to promote the crafts and enable artisans to reach a wider customer base.

***Awareness and Promotion:*** Launching awareness campaigns to educate the general public about the cultural and artistic significance of the brass and bell metal crafts. Promote the craft through tourism initiatives, such as craft tours, workshops, and cultural festivals, to attract visitors and increase demand for the products.

***Design Protection and Intellectual Property Rights:*** Strengthening the legal framework for protecting the designs and intellectual property associated with the brass and bell metal crafts. This can help prevent unauthorized copying and ensure artisans receive fair recognition and financial benefits for their unique creations, as seen in [Figure 6](#).

**Figure 6**



**Figure 6** Examples of Product Diversification to Meet the Requirements of the Contemporary Market

**Source** Author

**Collaboration with Educational Institutions:** Fostering collaboration between government agencies, NGOs, and educational institutions to integrate the craft into the curriculum. This will help preserve traditional knowledge and provide educational and research support to artisans, ensuring the continuity of the craft.

**Sustainability Practices:** Encouraging the use of eco-friendly and sustainable practices in the production process, such as the use of recycled materials and adopting energy-efficient techniques and materials (refer to [Figure 5](#)). This will help to minimize the environmental impact and align the craft with the principles of sustainability.

**Figure 7**



**Figure 7** Hand Made Iron (Left and Middle) and Clay (Right) Crucible for Metal Melting

**Access to Finance and Credit:** Facilitating easy access to finance and credit for artisans by establishing special schemes or microfinance programs tailored to their needs. This can help them invest in infrastructure, upgrade their workshops, and scale up their businesses.

**Monitoring and Evaluation:** Establish a monitoring and evaluation mechanism to assess the effectiveness of the policies and interventions implemented. This will ensure that the initiatives are on track and can be modified or improved based on the evolving needs of the artisans and the craft sector.

These policy recommendations aim to ensure the sustainability of the brass and bell metal crafts in Birbhum district by addressing the issues and leveraging the opportunities present. However, it is important to consider the local context,

stakeholder involvement, and consultation with artisans and craft communities during the policy formulation and implementation process to ensure their active participation and ownership.

## 7. CONCLUSION

In summary, it can be concluded that the key issues affecting the brass and bell metal crafts of Birbhum district include limited market access, declining demand, and lack of awareness. However, the data set also revealed the probable opportunities to ensure the sustainability of the craft, such as the growing interest in traditional crafts, tourism development, and government support.

As the outcome of the research, several policies have been recommended, including the development of artisan clusters, skill development programs, financial support, marketing initiatives, awareness campaigns, design protection, collaboration with educational institutions, sustainability practices, access to finance, and monitoring and evaluation mechanisms. The findings underscore the importance of integrating traditional craftsmanship with contemporary market demands to revitalize the brass and bell metal crafts of Birbhum district. The study also highlights the potential for economic growth that can be achieved by supporting and promoting these traditional crafts through the planned development of a tourism network.

Overall, the conclusion emphasizes the need for a comprehensive and collaborative approach to ensure the sustainability and growth of the brass and bell metal crafts in the Birbhum district, promoting economic opportunities for the artisans and the community.

## CONFLICT OF INTERESTS

None.

## ACKNOWLEDGMENTS

None.

## REFERENCES

- Bhattacharya, A., and Chakraborty, S. (2019). Craft Cluster Development and Marketing Intervention: A Study of Brass and Bell Metal Crafts of Bengal. *International Journal of Community and Cooperative Studies*, 7(2), 1-16.
- Chattopadhyay, S., and Gupta, S. (2021). Socio-economic Conditions of Metal Craftsmen in Birbhum District of West Bengal. *Asian Journal of Home Science*, 16(1), 1-7.
- Höjer, M., Dreborg, K. H., Engström, R., Gunnarsson-Östling, U., and Svenfelt, A. (2011). "Experiences of the Development and Use of Scenarios for Evaluating Swedish Environmental Quality Objectives." *Futures* 43(4):498-512. <https://doi.org/10.1016/j.futures.2011.02.003>.
- Kumar, P., & Sarkar, S. (2020). Challenges and Opportunities for the Traditional Handicraft Sector in India: A Case Study of Brass and Bell Metal Crafts. *Journal of Heritage Tourism*, 15(2), 191-207.
- Mohsini, M. (2011). "Crafts, Artisans, and the Nation-State in India." *A Companion to the Anthropology of India* (2012), 186-201. <https://doi.org/10.1002/9781444390599.ch10>.

- Mukhopadhyay, R. (2018). Brass and Bell Metal Crafts of Birbhum District: An Analysis of Challenges and Prospects. *Journal of Rural and Community Development*, 13(3), 62-76.
- Nandi, T., and Dutta, S. (2022). Market Potential and Challenges of Brass and Bell Metal Crafts in Birbhum District. *South Asian Journal of Business and Management Cases*, 11(1), 83-95.
- Roy, S., and Banerjee, S. (2017). Traditional Bell Metal Industry in Birbhum: Challenges and Prospects. *Craftsman: International Journal of Craft and Design*, 14(2), 18-32.
- Sengupta, A., and Chatterjee, S. (2019). Sustainable Development of Brass and Bell Metal Crafts: A Case Study of Birbhum District. *International Journal of Business and Administration Research Review*, 3(10), 222-230.
- Singh, J., and Roy, P. (2018). Artisans in Distress: A Study of the Brass and Bell Metal Craftsmen of Birbhum District. In *Proceedings of the International Conference on Business Management and Social Science*, Springer, 82-97.
- Srivastava, S., and Gangopadhyay, A. (2021). Brass and Bell Metal Crafts of Birbhum District: An Exploratory Study on Issues and Challenges. *International Journal of Innovative Research and Advanced Studies*, 8(4), 456-467.