




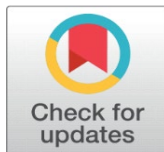
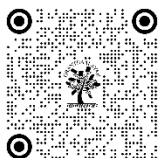
AN EXPLORATORY STUDY: CONCH SHELL CARVING IN BISHNUPUR, INDIA

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ABSTRACT

The term "conch" has been often used throughout history to designate a variety of medium to large sea snails, particularly their shells. Bishnupur, a city and municipality in the Bankura district of West Bengal, India, has a rich heritage that includes the skill of carving these conches. Conch shell carving is renowned for its incredibly lovely and elaborate patterns contributing to some elegant visual art forms. In the Hindu faith, they play a crucial role and are seen as lucky in the mythology of the Hindus. Common products created from conches include ornaments, trumpets, beautiful home goods, sculptures, and more. This craft of carving conch shells is practised by traditional artists, many of them are members of the caste known as "Sankha Banik." Nowadays, the centre of these activities by these artists is a location named "Sankhari Bazaar" in the city of Bishnupur. Their expertise and art are passed down from years to generations, ensuring that this indigenous craft form never goes extinct. This paper makes an effort to comprehend the history of this craft form, the effects of geography and other state sovereignty conditions on it, the multiple techniques used to create objects from conch shells, its distinctiveness as a centuries-old art form, and finally, to investigate the current issues affecting this industry. The present scenario and user perspective has been tallied through a stakeholder survey conducted in Bishnupur, West Bengal, India. As a conclusion, this paper also seeks to identify potential paths and future directions for Bishnupur's conch shell sector to emerge as a prospective visual communicator.

Keywords: Conch Carving, Traditional Artisans, Visual Art, Stakeholder Perspective, Industrial Design, Better Communication

1. INTRODUCTION

Sankha Shilpa is a type of art in which naturally occurring conch shells are incised with designs or pictures. The Gulf of Bengal's coastlines are where these shells are typically found. Most of the patterns and pictures in these engravings are based on legendary origins, such as those related to Lord Shiva, Lord Krishna, scenes from the Mahabharata and Ramayana, etc [Bain \(2016\)](#). Carving conch shells requires a lot of work and is tiresome. It frequently takes months to carve on conch

shells, starting with the preparation of the raw materials and ending with the final item [Chatterjee \(2013\)](#).

In the Bishnupur area, traditional conch shell cutting has been practised for centuries. Due to their many uses in several events, conch shells are an essential component of Bengali households. It's a common belief that blowing conches chases evil spirits away. Also, they are blown as part of a whole puja process as well as when something auspicious or new is beginning. They are also blown to commemorate successes in addition to all of the above. Bengali ladies use conch shell bracelets to signify their married status [Fruzzetti \(1942\)](#).

Conch shells are used to make engraved shells in addition to jewellery and commonplace objects like bangles, armlets, rings, lockets, buttons, hairpins, and clips. Table lamps, incense stick holders, ashtrays, vermilion containers, spoons, and forks are examples of further conch shell goods [Alamgir \(2012\)](#), [Chatterjee \(2009\)](#).

Bishnupur is a well-known tourist attraction because of its extensive collection of stunning terracotta temples that display a wide range of structural styles of mediaeval Bengali temple architecture. The capital of a sizable region once known as Mallabhum was Bishnupur. Mallabhum included not only the entire Bankura district but also a sizable portion of the Medinipur and Bardhaman districts [Biswas \(2021\)](#).

In terms of art and culture, Bishnupur was at the height of its splendour during this period. According to historical sources, Bishnupur's primary economic pursuits were the processing of silk yams and handloom silk weaving [Hamerow \(1989\)](#) [Lefler \(1961\)](#). But other factors, such as the various kinds of handicrafts-making, that flourished under the active patronage of the Malla kings of Bishnupur, have also been significant contributors to the popularity of this place. It was not just silk that gave Bishnupur such an eminent place in the annals of history. Terracotta carving, conch shell carving, coconut shell carving, lantern making, brass utensil making, dashabatar card making, fragrant Amburi tobacco manufacturing, and other businesses have all been recognized to be of significant historical and economic value to this location [Razin & Hayflick \(2010\)](#). In addition, Bishnupur is the birthplace of the 'Bishnupur Gharana,' a well-known subgenre of Indian classical music. As was already noted, Bishnupur is also well known for its system of large reservoirs and gigantic and exquisite clay temples [Banerji \(1968\)](#). Having stated all of these details, it is possible to state with certainty that Bishnupur has been quite successful in maintaining the allure of an old Bengali urban settlement, bearing an undeniable testament of the bygone days of great splendor and magnificence, despite having existed for such a long time [Alamgir \(2012\)](#), [Sengupta & Das \(2021\)](#).

The conch shell business employs hundreds of craftsmen in Sankhari Bazaar, Bishnupur, who rely on it for their living. Titkiiti, Jarjir, Kachcham, Dhala, and Pati-sankha are the five main varieties of conch-shells that the craftsmen often employ as their primary raw material. These conch shells are used to create ornaments like necklaces, bangles, earrings, rings, and so on. Conch shells with elaborate decorations are also utilised for worship and puja ceremonies in addition to these. These conch goods are highly valued and significant on a national level. In 1988, the President Prize was given to renowned conch shell craftsman Shri Aswini Kumar Nandy for his accomplishments [Nag \(2022\)](#), [Das \(2014\)](#).

Now, the market is shrinking as a result of abrupt price increases and rising raw material costs. Several conch-shell carvers are now switching to carving coconut shells as a result. In this context, it is important to draw attention to Shri Gopal Nandy, who received the President Prize in 1988 for his outstanding artistic work on coconut shell. Together with this, craftspeople are currently experimenting with

gourd shells as well (Sen) (Paul, "Economics of Conch Shell Industry-A Study in West Bengal.") Dutta (2011).

This paper ventures through the comprehension of the origins of the craft-form along with the impact of geographical locations and other territorial conditions. The study also explores the aspects of the processing of the conch shells particularly in Bishnupur area. Issues, such as hike in price for the conch shell carving industry, were also taken into consideration. The study puts primary emphasis on understanding the current scenario of the conch shell carving industry along with the perceptions of both the artisans and the potential buyers. To enquire about these a thorough literature study was done and was tallied through quantitative and qualitative surveys conducted among 100 individuals in Bishnupur, West Bengal, India. Among the respondents of the quantitative survey, 25 were artisans and the rest were potential customers. For the qualitative survey, the number of respondents were 10 and comprised of artisans, design students, industry professionals and professors. It is a holistic approach towards exploring the current scenario and future exponential growth possibilities pertaining to the conch shell carving industry in Bishnupur.

2. DESIGN PROCESS

Figure 1

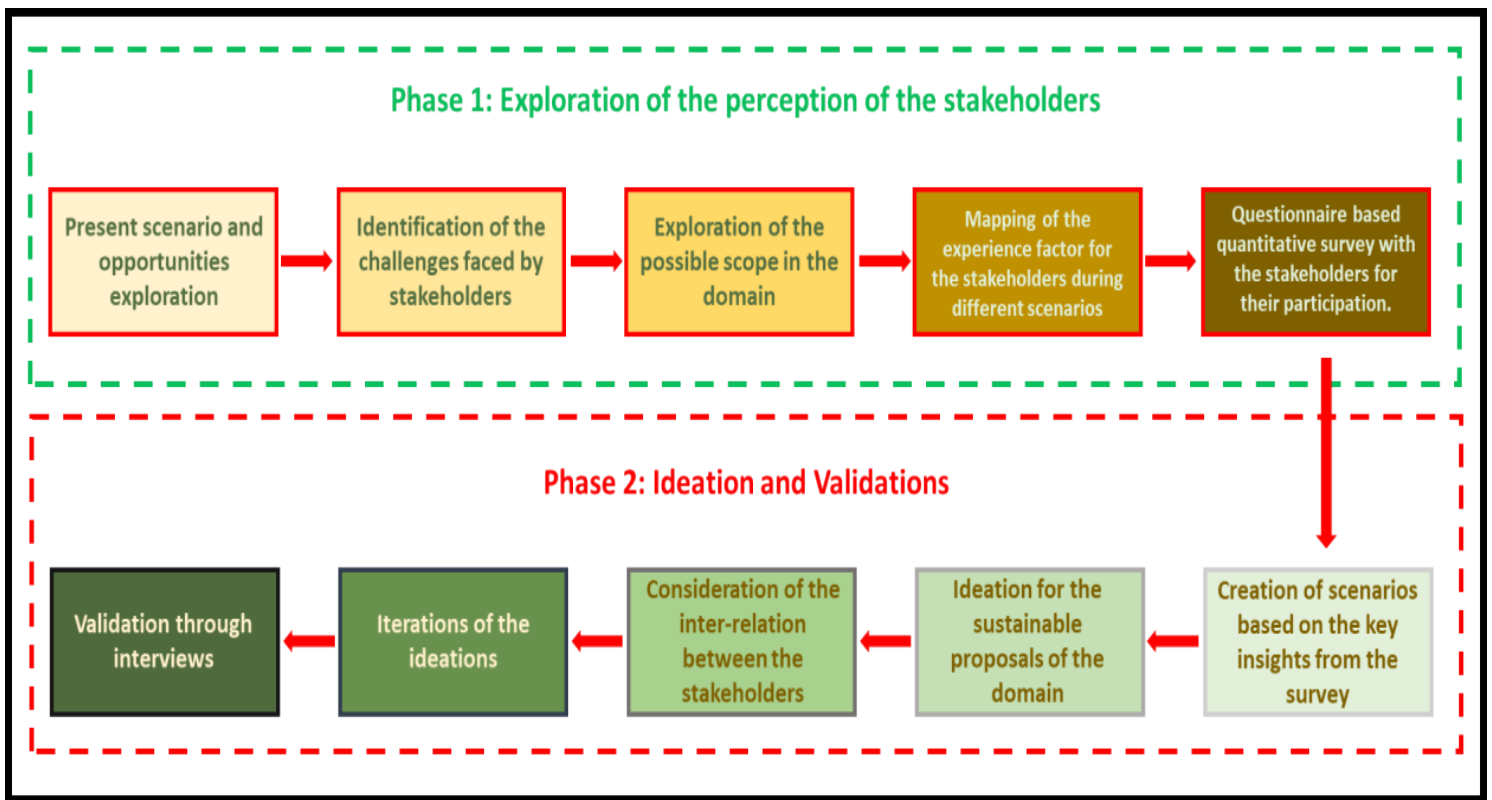


Figure 1 Design Process of the Study.

The entire study was structured into two primary phases namely Phase 1 and Phase 2. In Phase 1, it was intended to explore the various perceptions of the stakeholders associated with the conch carving industry. The present scenario regarding the craft form and available opportunities were explored from the literature survey. It was comprehended that the stakeholders in consideration

might have some constraints regarding the craft in various aspects. These aspects were taken into consideration. Domains that's have possible scopes to advance the pace of the craft were also reviewed. It was understood that the experience factor plays a vital role for the stakeholders to stick to the craft form and was addressed accordingly. In the later steps, a questionnaire based quantitative survey was conducted to find out the actual perceptions of the stakeholders in hand.

In Phase 2 of the study, scenarios were created for the stakeholders from the insights drawn from the questionnaire survey. According to the scenarios, sustainable solutions for the craft form were derived. The inter-relation and dependency of the stakeholders among themselves was given utmost importance as it could be an important factor influencing the craft as a whole. Multiple iterations of the ideation process were carried out to find the most practical and feasible sustainable solutions. Lastly, a validation survey was conducted using prototype of the ideation and comprises of interviews. The entire study is depicted in pictorial manner in Fig. 1.

3. LITERATURE REVIEW

Studies on the economics of the conch shell business are few and far between. We include a few pertinent studies below.

Abraham emphasized the value of handicrafts from an aesthetic and cultural perspective. Man has been associated with art and craftsmanship from the beginning of human civilization. He made stone weapons to defend himself against ferocious woodland creatures [Abraham \(1964\)](#). According to Ahmed, the quality of the artisans' work and the special attention shown by the federal and state governments in promoting the export of handicrafts might make it feasible for the marketing of handicrafts to perform satisfactorily. According to Aiyar, the Sankha, or conch, holds a significant position in Hindu philosophy [Ahmed \(1980\)](#). In her 2012 study, Banerjee makes an effort to examine the challenges and future opportunities of the conch shell sector in Bishnupur, West Bengal's Bankura District. She comes to the conclusion that despite the numerous issues this historic "conch business" is facing, it is nonetheless important to note its appeal [Banerjee \(2012\)](#). According to Basu, the proportional proportion among blocking and working capital requirements depends greatly on the kind of an industry. The ratio of stable to working capital must be higher as industrial processes become more convoluted and sophisticated [Basu \(1953\)](#). In West Bengal, Biswas examines the pattern and causes of rural industrialization. He spoke about the ways in which the conch shell products sector is structured in terms of manufacturing and how technology is changing [Biswas \(2003\)](#).

According to Dutta, India's use of conch shells to create amazing ornamental but creative pieces of utility objects is not new nor singular [Dutta \(2011\)](#). Financial stability and management effectiveness are inextricably related, according to Ghosh. Even the strongest financial framework might fall apart like a pack of cards if somehow the management is poor [Ghosh \(1953\)](#). The conch shell industry's situation in West Bengal's Bankura area was addressed by Ghosh in 1999 (Paul). Haque drew attention to designs on the surface of the bracelets of Sankha products, such as a chain of fish, a dove, or a series of conch shells [Haque \(1984\)](#). Heppell talked about the current Indian chank shell business [Heppell \(2001\)](#). According to Hornel in 1982, there was a significant Chank cutting business in the early years of the Christian period in the ancient Pandyan Kingdom [Hornell \(1918\)](#). In 1914, Hornel published writings on the chank in Hindu culture, Indian fisheries, marine

biology, and different topics in folklore and ethnology [Hornell \(1914\)](#). Hunter talked about how the completed conch shell product, Sankha, was made [Hunter \(1876\)](#).

Understanding the shifting dynamics seen between formal and informal sectors in a liberalization, open emerging economy is the main goal of Marjit and Maiti's article. They wrap up by discussing a field-based survey on how formal and informal entrepreneurs are interacting differently in a variety of rural Indian businesses as they prepare for export and larger markets [Marjit & Kar \(2004\)](#). According to Mandal in 1997, West Bengal's folk craft heritage faces challenges and opportunities, and the socioeconomic situation of the Shankhari people is currently at a low level. Another key topic of research is how this craft affects the environment, culture, and religion [Das & Abhijit \(2019\)](#). According to Mudur in 2005, Bet Dwarka Island's southernmost point, which is covered with a collection of over 3,000 shells, was the site of a significant shell trade during the late Harappan era [Mudur \(2005\)](#). According to Phadke, West Bengal and Orissa are home to over 3,000 000 conch shell artisans and merchants. A rare Pooja item utilised in many Hindu rites is the Indian Sacred Conch of the species *Turbinellapyrum* (Sinistral, 1989). In the religion of Buddhism, that serves as one of the eight fortunate symbols. Due to its religious significance, this species is not prohibited from export or import under the Wildlife Preservation Act of 1972, Government of India [Das et al. \(2012\)](#). In his detailed discussion of handcraft marketing from 1994, Rao also addressed the actions of craftspeople [Gopalrao et al. \(1994\)](#). Sen and Sinha investigated the market decisions of artisans and the conchshell industry's manufacturing process in Sikkim and West Bengal [Dipankar & Sukumar \(1965\)](#). Sonali highlighted the West Bengali conch shell craft and mentioned how conch shell preparation and use have a long history. From the Vedic era, India has employed them. They are used by priests to ward off bad spirits before marriages, sacrifices, and other Hindu rituals. Conch shells are frequently blown by Buddhists as a musical offering [Paul & Jana \(2014\)](#). Sujauddin talked about the state of Sankhasilpa in West Bengal owing to a rise in the cost of intact conch shells brought on by the depreciation of Indian rupee in comparison to the US dollar [Chowdhury et al. \(2013\)](#).

While few Bengali women may be seen wearing conch bangles in urban settings, Tulsyan said that it is simpler to discover women usually from the lower class donning them in Bihar, Odisha, and Uttar Pradesh. According to a cursory survey of the literature, West Bengal's conch shell industry's issues and prospects have not received enough attention. The goal of the current study is to fill in some of the deficiencies in the body of knowledge [Tulsyan \(2013\)](#). According to Upadhyaya, who wrote the book "Economics of Handicraft Industry," such a sector cannot grow sustainably without design innovation, technological advancement, and quality enhancement. In order to achieve the dual goals of higher finish and rationalisation, it has been agreed upon in responsible quarters that even in the sphere of handicrafts, a certain level of mechanisation ought to be applied. According to a cursory survey of the literature, the economics of the conch shell business and the current state of this sort of folk art enterprise have not been thoroughly covered. The goal of the current study is to close some of the inadequacies in the body of knowledge [Upadhyay \(1973\)](#).

4. METHODOLOGY

In accordance to insights from the literature study it was evident that conch carving in Bishnupur has been existent from a period of time and there have been several architectural evidences of that. It is also showcased from the above insights that the art of conch carving is slowly in the path to be soon perished. There have

been literature instances where it was found that the practitioners of the craft are reluctant to pass the knowledge and skills to the future generations. This might be a result of low revenue generated from the craft and also the popularity of the intricate motifs of the craft form. The geological impressions on the finished crafts could play a much prominent role as of the present situation.

Having gathered crucial insights from the literature study on the conch shell carving of Bishnupur, it was immensely important to explore the current scenario from the perspectives of the artisans of the craft and as well as the current and potential customer base. To approach the study forward, the exploration was articulated into two systematic phases.

Phase 1: Exploration of the Perspectives of the Stakeholders.

Initially in this phase, the insights were drawn from the understanding of the literature study conducted and through those exploration of the perceptions of the stakeholders were tallied and taken into account. In case of artisans, they face economic challenges when it comes to the capital generation from the craft. The reach of the craft along with its versatility is a challenge in itself. For the customers, the awareness about the intricate craft form is an obstacle to overcome. There could be outreach approaches of the craft as a product, that could assist all the stakeholders to overcome their respective challenges. The experience factor associated with the craft and its process in any form has been well accounted for in the study. Once all these aspects were reviewed and taken into account, a questionnaire based survey was conducted among 100 individuals. Among those, 25 were artisans and 75 were the present and potential customers. It was understood that different stakeholders have different priorities when it comes to economic challenges and behavioural aspects, so two sets of questionnaire were prepared for the two separate groups.

For the artisans, Question 1 spoke about the continuity of the craft form for the future generations to take it up as a profession. In Question 2, the aspect of income generated from the craft was questioned and the respondents were asked to tally their satisfaction. Question 3 spoke about the availability of the raw materials required for the craft. Question 4 enquired about the perception associated with liking the craft while practicing. In question 5, the awareness of the buyers was tallied according to the artisans' perspectives. Question 6 had the respondents about the opportunities that could be looked upon associated with the process of the craft. Question 7 talked about particular opportunities that would boost their economic status as well as the craft. Question 8 had the respondents talk about the process about the craft and if that could be applied else where as a design motif. Question 9 and 10 dealt with the prospects of the sustainable solutions for the craft and the respondents were asked to state their views on that.

For the customers, Question 1 dealt with the knowledge of the craft and its implementation in various forms. Question 2 speaks about knowing the exact process of the carving of the conchs and the respondents were asked to state their answers. In Question 3, the respondents were asked if they liked the craft as a whole and the utility of it. Question 4 had the respondents state their view on the purchasing behaviour of the craft and if they wanted more of those. Question 5 talked about the learning the process of the craft and asked the respondents to state their views. Question 6 talked about the process of carving to be modified and implemented in other products of commercial use. In Question 7, the aspect of outreach of the carving process in economic measures were tallied from the buyer's perspective. Question 8 had the respondents to talk about justified monetary

amount to the artisans for their output. Question 9 and 10 talked about the sustainable solutions such as proper branding and utilization along with geographical preferences.

Result of Phase 1

According to the result obtained through the survey, the perception of the artisans was tallied. In Question 1, 11 respondents strongly disagreed. In Question 2, 14 respondents strongly disagreed. In Question 3, 10 respondents answered neutrally. In Question 4, 7 respondents answered neutrally. In question 5, 8 respondents strongly disagreed. In Question 6, 7 respondents strongly agreed. In Question 7, 10 respondents strongly agreed. In Question 8, 8 respondents strongly disagreed. In Question 9, 9 respondents answered neutrally. In question 10, 9 respondents answered neutrally.

Figure 2

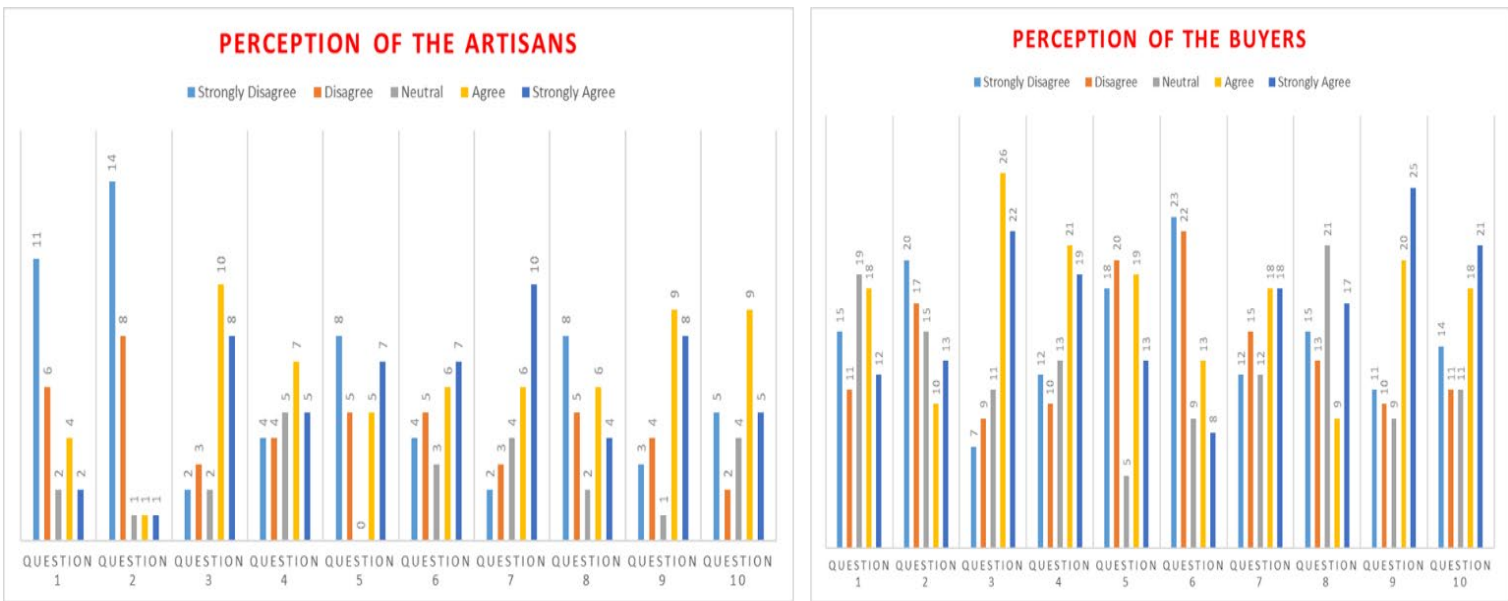


Figure 2 Result Obtained from the Phase 1 Survey

For the customers’ perception, Question 1 had 19 respondents answering neutrally. In Question 2, 20 respondents strongly disagreed. In Question 3, 26 respondents agreed. In Question 4, 21 respondents agreed. In Question 5, 20 respondents disagreed. Question 6 had 23 respondents strongly disagreeing. In Question 7, 18 respondents agreed and 18 strongly agreed. In Question 8, 21 respondents answered neutrally. In Question 9, 25 respondents strongly agreed. In Question 10, 21 respondents strongly agreed. Fig. 2 is the graphical representation of the data obtained.

Phase 2: Ideation and Validation

From the insights drawn from the results of Phase 1, scenarios were created for the stakeholders on aspects of economic wellbeing, desirability of the craft, outreach of the craft and buying behaviors of the stakeholders. Once the scenarios were formulated, ideations to sustain the craft form were done. Proper restructuring and branding could be one of the sustainable proposals put forward. The dependency of the stakeholders on each other was crucially taken into consideration so that the

balance in the overall economy is static. After that iterations of the ideations were created to fit aesthetical stability in the appearance. Fig. 3 shows the iterations of the ideation.

Figure 3



Figure 3 Iterations of the Ideation (Conceptualized Packaging)

Once the iterations were finalized, it was time for the validation survey to be conducted among 10 individuals regarding the desirability, feasibility, and utility aspects of the proposed solutions. The respondents comprised artisans, design students, industry professionals and professors to put forward valuable inputs.

5. RESULT & DISCUSSION

Table 1

| Table 1 Feedbacks Collected Through the Validation Survey | |
|---|--|
| Feedbacks | |
| Respondent 1 | This provides us a new way to showcase our craft and reach a larger market. |
| Respondent 2 | More motifs can be included in the packaging of the items. |
| Respondent 3 | This is a feasible, and we would like to incorporate something similar, in the future. |
| Respondent 4 | This could be a good way to revive the dying art form, and give the artisans the much needed platform. |
| Respondent 5 | This art form is an integral part of the heritage and the culture of the people of Bishnupur. It is the need of the hour to restore it to its proper heights. |
| Respondent 6 | In Hindu culture the sound of the conch shell is considered to be auspicious. It forms the core of our rituals and practices. |
| Respondent 7 | We were not even aware that such an art form exists. It is incredible to witness such level of intricacy and detailing. |
| Respondent 8 | Proper packaging and branding would enable the artisans to get the correct value of their craft. |
| Respondent 9 | This product and the art form is identity of the craftsmen practicing in the region of Bishnupur. GI tag for the same will put these practitioners on the world map. |
| Respondent 10 | We are excited to see how this dying industry can revive itself and reach its former glory. |

According to the feedbacks collected through the validation survey, it was evident that the design approach could actually be a sustainable strategy for the craft form. Well planned marketing and strategic branding could also be a suitable upgrade to the overall business. Table 1 shows the responses collected from the validation survey. The future generations of the artisans could also take up their inherited skills and practice. The newer generation could also possibly find various other scopes in the domain to flourish the business. The buying behaviours of the customers could be enhanced and made better with proper utilization of motifs as aesthetic parameters. The branding could also take up essence and instances from the carving process and implemented in various ways and forms. There is a possibility that these motifs and elements could be implemented in other products. The motifs could also be used to create awareness about the entire carving process. In a broader spectrum, the entire conch carving process of Bishnupur could be studied as a Geographical Indicator and associated domains could also be explored in the future. With sustainable proposals for the craft form to continue thriving, there exists limitations that are subject to future studies such as the problem of mass production and training along with the initial funding.

Conch shell carving in Bishnupur has a bright future because traditional arts are becoming more and more popular all over the world. Conch shell carving has gained popularity as people have grown more conscious of environmentally friendly living and products since it uses natural resources and has little negative influence on the environment. Conch shell carving in Bishnupur could have a bright future if it can be incorporated into contemporary design and consumer goods. Conch shells' unique patterns and motifs can be applied to a variety of products, including jewellery, home decor, and fashion accessories. This may open up a brand-new market for conch shell carving goods that can be sold all over the world, giving Bishnupur's artists a new platform for showcasing their skills and making money. Conch shell carving has additional potential for the creation of more specialised methods and patterns. Bishnupur's artisans can continue to experiment and invent with their ancient methods to produce one-of-a-kind and cutting-edge designs. By doing so, they will be able to serve a wider range of customers and maintain the art form's relevance and interest.

Additionally, Bishnupur offers a chance for the growth of the conch shell carving tourism industry. Tourists may be drawn to the area as the art form becomes more well-known in order to see the meticulous process of conch shell cutting and to buy locally created goods. This can help the local economy grow and provide up job opportunities for craftspeople and businesses in connected fields.

6. CONCLUSION

Conch shell goods have seen a seasonal increase in demand in recent years due to their cultural importance. This industry, which is distinguished by its cultural relevance and rich past, cannot be sustained by this alone. The craftspeople have been compelled to pursue alternative sources of income due to the skyrocketing cost of raw materials and shrinking business margins. Hence, a novel strategy is required to safeguard the survival of this sector, whose origins date back to the era of the kings. Using contemporary technologies, setting up co-operatives, educating artisans and their final consumers, and developing goods that are responsive to shifting market dynamics might be realistic steps towards bolstering the sector and assuring its sustainability and durability.

Giving the art form a GI tag would help give it and the craftspeople who participate in it a name. Based on this familiarity, a variety of rebranding and

marketing plans might be developed to build a solid clientele. All of these initiatives are essential to preventing the extinction of this magnificent art form from the face of human civilization, which contains the vial of Bengal's golden period and its rich cultural legacy.

CONFLICT OF INTERESTS

None.

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None.

REFERENCES

- Abraham, T. M. (1964). TM Abraham. Graphics Columbia.
- Ahmed, N. (1980). Problems and Management of Small Scale and Cottage Industries. New Delhi : Deep and Deep Publication.
- Alamgir, K. (2012). Bell and Chain Decoration in Sultanate Architecture of Bengal. *Journal of Bengal Art*, 17, 9-21.
- Bain, W. K. (2016). Bishnupur : A Town of Cultural Excellence. *Journal of the Anthropological Survey of India*, 89-105. <https://doi.org/10.1177/2277436X20160107>.
- Banerjee, R. (2012). An Overview Of Conchshell Industry of Bishnupur, Bankura District–after Sumatra Tsunami (2004).
- Banerji, A. K. (1968). West Bengal District Gazetteers : Bankura.
- Basu, S. K. (1953). Industrial Finance in India : A Study in Investment Banking and State-aid to Industry with Special Reference to India.
- Biswas, P. G. (2021). Dynastic Time : A Chronology for Memories in Bishnupur. In *Rethinking the Local in Indian History*. Routledge India, 19-43.
- Biswas, P. K. (2003). Rural Industrialisation in West Bengal : Institutions, Innovations, and Growth.
- Chatterjee, K. (2009). Cultural Flows and Cosmopolitanism in Mughal India : The Bishnupur Kingdom. *The Indian Economic & Social History Review*, 46(2), 147-182. <https://doi.org/10.1177/001946460904600201>.
- Chatterjee, N. D. (2013). Heritage Site Management Problem in Developing Countries : A Case Study on Temple Town Bishnupur, District Bankura, West Bengal, India. Bishnupur.
- Chowdhury, R. B., Sujauddin, M., Murakami, S., Chakraborty, P., & Alam, M. S. (2013). Current Status of Municipal Solid Waste Management System in Chittagong, Bangladesh. *International Journal of Environment and Waste Management*, 167-188. <https://doi.org/10.1504/IJEW.2013.055592>.
- Das, P., Mandal, S. C., Bhagabati, S., Akhtar, M.S. & Singh, S. K. (2012). Important Live Food Organisms and their Role in Aquaculture. *Frontiers in Aquaculture*, 5(4), 69-86.
- Das, S. D., & Abhijit, D. (2019). Sankha Shilpa (Conch Shell Industry) in an Urban Area of West Bengal : An Ethnographic Study. *International Journal of Innovative Studies in Sociology and Humanities*, 4(7), 33-40.
- Dipankar, S., & Sukumar S. (1965). Handicrafts Survey Monograph on Conch Shell Products.
- Dutta, S. (2011). Conch Shell Craft of Bankura. *Chitrolekha International Magazine on Art and Design*.

- Fruzzetti, L. M. (1942). *Conch-Shells Bangles, Iron Bangles : An Analysis of Women, Marriage and Ritual in Bengali Society*. University of Minnesota, Ph. D., 1975, Anthropology, Cultural.
- Ghosh, B. (1953). Current Problems and Practices in Workers' Education. *International Labour Review*, 68(1), 14.
- Gopalrao, K. V., Chandrasekhar, M., & Rao, C. R. P. (1994). *Marketing of Handicrafts*. Indian Publishers Distributors.
- Hamerow, T. S. (1989). The Bureaucratization of History. *The American Historical Review*, 654-660. <https://doi.org/10.2307/1873751>.
- Haque, Z. (1984). *Gahana, Jewellery of Bangladesh*.
- Heppell, D. (2001). *The Chank Shell Industry in Modern India*.
- Hornell, J. (1914). *The Sacred Chank of India : A Monograph of the Indian Conch*.
- Hornell, J. (1918). *The Chank Bangle Industry : Its Antiquity and Present Condition*.
- Hunter, W. W. (1876). *A Statistical Account of Bengal : Districts of Midnapur and Hughli (Including Howrah)*.
- Lefler, H. T. (1961). North Carolina History—A Summary View of What Has Been Done and What Needs to Be Done. *The North Carolina Historical Review*, 216-227. <https://www.jstor.org/stable/23517218>.
- Marjit, S., & Kar, S. (2004). Productivity and Wage in the Informal Sector. In EGDI-WIDER Conference on Unlocking Human Potential – Linking the Informal and Formal Sectors.
- Mudur, G. (2005). *Hint of Harappa Shell Industry*.
- Nag, A. (2022). Industrial Infrastructure Development of Cottage Industries for Inclusive Economic Growth in a Sustainable Manner : Case Study of the Urban Growth Centre in Bishnupur, West Bengal, India. *International Journal of Indian Culture and Business Management*, 204-233. <https://doi.org/10.1504/IJICBM.2022.123591>.
- Nilanjana Das, C. (2014). Role of Culture in the Process of Resource Creation: A Case Study on Temple Town Bishnupur, District Bankura, West Bengal, India.
- Paul, A., & Jana, S. K. (2014). Economics of Conch Shell Industry-A Study in West Bengal. *Journal of Studies in Dynamics and Change (JSDC)*, 254-267.
- Razin, S., & Hayflick, L. (2010). Highlights of Mycoplasma Research--an Historical Perspective. *Biologicals : Journal of the International Association of Biological Standardization*, 38(2), 183-190. <https://doi.org/10.1016/j.biologicals.2009.11.008>.
- Sengupta, K. M., & Das, T. (2021). Rethinking the Local in Indian History : Perspectives from Southern Bengal.
- Tulsyan, S. (2013). *Clinking in UP, Bihar*.
- Upadhyay, M. N. (1973). *Economics of Handicrafts Industry*.