



ROADMAP TO
**REJUVENATE THE
HANDICRAFT INDUSTRY**



NABARD

**NABARD, Tripura Regional
Office, Agartala**

ROADMAP TO
REJUVENATE THE
HANDICRAFT INDUSTRY
IN TRIPURA



NABARD

Tripura Regional Office,
Agartala

Study Commissioned by:

National Bank for Agriculture and Rural Development

Tripura Regional Office

Shilpa Nigam Bhaban (Ground Floor), Khejur Bagan, Near Ginger Hotel PO, Kunjaban Agartala.

Tripura-799006

Contact Number: 0381-2412378

[Email ID: agartala@nabard.org](mailto:agartala@nabard.org)

Study Conducted and Report Prepared by:

Shri Bibhuti Ranjan Bhattacharjya

Assistant Professor

Department of Design, IIT Roorkee

Phone: 8811884920

Email: bibhutiranjnb@gmail.com



Foreword

The handicraft industry of Tripura is a testament to the state's rich cultural heritage and traditional craftsmanship. Tripura, known for its exquisite bamboo and cane crafts, handwoven textiles, and terracotta pottery, reflects the artistic legacy of the region and plays a crucial role in sustaining livelihoods, particularly in rural areas. However, despite its immense potential, the handicraft industry in Tripura faces numerous challenges, including limited market access, scarcity of raw materials, and a lack of modern design interventions. Recognizing the need for a strategic approach to address these issues, NABARD Tripura Regional Office has taken the initiative to undertake a comprehensive study, which aims to provide a roadmap for rejuvenating the handicraft sector in the state.

This report, prepared in collaboration by the Indian Institute of Technology (IIT) Roorkee, offers a detailed analysis of the current status of the handicraft industry in Tripura. It identifies critical challenges faced by artisans, such as inadequate infrastructure, limited skill development opportunities, and insufficient market integration. The study also highlights the role of Tripura's crafts in national and global markets, which has growing demand for sustainable, handmade, and culturally rich products. Through stakeholder consultations, extensive field visits and participatory research, the report provides actionable recommendations to enhance productivity, improve product quality, and create sustainable livelihoods for artisans.

NABARD remains committed to fostering rural development and supporting traditional industries like handicrafts, which are integral to the socio-economic fabric of Tripura. This roadmap outlines a three-pronged strategy focusing on capacity building, market integration, and policy advocacy to ensure the sector's growth and sustainability. We believe that the successful implementation of these recommendations will not only preserve the cultural heritage of Tripura's handicrafts but also contribute significantly to the economic development of the state.

We extend our gratitude to the Team IIT, Roorkee, all stakeholders, artisans, and experts who contributed to this study. We hope this report serves as a guiding document for policymakers, industry leaders, and artisans in their collective efforts to revitalize the handicraft industry of Tripura.

(Anil S Kotmire)
**General Manager/
Officer-In-Charge**

Contents

Table of Figures	1
Executive Summary	3
Chapter 1: A Global Perspective of Handicrafts	5
Chapter 2: The Handicraft Elegance of India	8
Chapter 3: Handicraft Legacy in Tripura	12
Chapter 4: Methodology and Approach	17
Chapter 5: Stakeholder mapping of the Tripura Handicrafts	19
Chapter 6: Handloom Clusters of Tripura	36
Chapter 7: Mapping Issues and key findings	47
Chapter 8: Recommendations and Way Forward	49
Appendix 1: A consolidated framework of recommendations	52
Appendix 2: Alternative Uses of Bamboo: Bamboo Fibres and Pulp Extraction	53
Appendix 3: Suggestive reference e-commerce platform for craft products	55
Appendix 4: Suggestive Product Range Development	56
Appendix 5: The Interview and Survey Questionnaire	61
Bibliography	63
The Project Team	64

Table of Figures

Figure 1: Global handicrafts Market Projections

Figure 2: UNESCO Creative Cities Program to Boost Handicrafts

Figure 3: Handicrafts of India

Figure 4: Craft Map of India

Figure 5: Crafts of Tripura

Figure 6: Craft map of Tripura

Figure 7: Methodology of the project

Figure 8: Journey map of the clusters visited in Tripura

Figure 9: Process of making a bamboo handicraft from Tripura

Figure 10: Baskets, mats, furniture (such as chairs and tables), decorative items, and utility products in Tripura

Figure 11: Various suggestive design interventions

Figure 12: Process of making clay pottery in the craft clusters of Tripura

Figure 13: Sketches prepared and photographs of the products from various pottery clusters of Tripura

Figure 14: Mythological characters carved from Bamboo Root in Tripura

Figure 15: Sketches prepared depicting the existing products made from Bamboo Root Craving

Figure 16: Shital Patti Products currently sold in the Craft outlets of Tripura

Figure 17: Sketch for suggestive design for the partition wall created with Bamboo/ Cane of Tripura

Figure 18: Various furniture made as a part of bamboo and cane craft in some clusters

Figure 19: Sketches prepared to showcase the product range in the bamboo jewellery of Tripura

Figure 20: Location of Nalchar Cluster

Figure 21: Various tools and equipment used to assist the process of Bamboo craft practices in Nalchar

Figure 22: A lady making bamboo basket in the workshop of Nalchar

Figure 23: Variety of Bamboo and Cane products from handicraft cluster of Nalchar

Figure 24: Location of the cluster and various Bamboo craft practices in Amarpur (Source: Project Files)

Figure 25: Lucy or Oosha (Takes 2 days to make worth 400/-), Nokhai (Woven Basket), Takhook

Figure 26: Location of the cluster and pottery workshop in Mohanpur

Figure 27: Various products in the pottery workshop in Mohanpur

Figure 28: Location of the cluster and pottery workshop in Nandan Nagar

Figure 29: Various products available in the pottery workshop in Nandan Nagar

Figure 30: Location of the cluster and Bamboo workshop in Bankumari

Figure 31: Consolidated framework prepared for the recommendations to rejuvenate the craft industry

Figure 32: Prevalent Methods of Bamboo Fiber Extraction

Figure 33: Reference e-commerce platform for marketing and sales in national/ international markets

Figure 34: Mood board prepared for the bamboo crafts of Tripura

Figure 35: Mood board prepared for the clay pottery of Tripura

Figure 36: Mood board prepared for the bamboo root carving of Tripura

Executive Summary

The handicraft industry of Tripura is deeply rooted in its cultural and ethnic heritage. It plays a vital role in generating employment opportunities in the state's rural economy. The state is known for its exquisite bamboo and cane crafts, handwoven textiles, and terracotta pottery, which hold immense potential to create employment, foster entrepreneurship, and preserve traditional knowledge. Despite its cultural significance and export potential, the industry faces significant challenges threatening its survival and growth in the modern era. The sector has been experiencing stagnation due to specific challenges, necessitating a strategic roadmap for its rejuvenation.

Currently, the industry operates on a largely informal and fragmented basis. Most artisans work independently or in small groups with limited access to markets, technology, or financial resources. Production methods remain labour-intensive, and there needs to be more innovation in design to cater to contemporary tastes. Furthermore, the younger generation is reluctant to pursue handicrafts as a livelihood, primarily due to its low economic viability and lack of recognition. Tripura's geographic isolation results in logistical challenges, making it difficult for artisans to source raw materials and access distant markets. The state's traditional reliance on bamboo and cane products has been particularly impacted by overharvesting, deforestation, and inadequate plantation practices, leading to raw material scarcity.

The need for rejuvenation arises from the handicraft industry's critical role in sustaining livelihoods, especially in rural areas where alternative employment opportunities are scarce. Beyond economic considerations, the industry is integral to preserving the state's cultural heritage and ensuring its transmission to future generations. There is also significant untapped potential for Tripura's crafts in the global markets, which increasingly value handmade, sustainable, and culturally rich products. The primary objectives of this project are to identify critical holdings in the handicraft value chain, propose actionable solutions for sustainable growth, and establish a roadmap to integrate traditional crafts into contemporary markets. A mixed-method approach was adopted, combining qualitative and quantitative research techniques. The study included stakeholder interviews, participatory rural appraisals, and surveys among artisans, cooperatives, and local businesses. This project's secondary research involved analyzing government reports, industry data, and success stories from other states with thriving handicraft ecosystems. Extensive field studies were conducted across key handicraft clusters in Agartala, like Nalchar, Amarpur, Bankumari, Paul Para, and Ranirbazar. The clusters have been identified and selected based on the discussion and recommendations of NABARD for their unique offerings and potential for scaling operations. Visits to artisan homes, workshops, and cooperative societies provided valuable insights into the crafts community's prevailing practices, challenges, and aspirations.

The project identifies a three-pronged strategy for rejuvenation: capacity building, market integration, and policy advocacy. Proposed outcomes include enhanced artisan incomes, improved product quality

and design diversification, and increased market visibility for Tripura’s handicrafts. Specific recommendations include:

- Setting up common facility centers.
- Introducing e-commerce platforms.
- Launching skill-training programs tailored to market demands.

This proposal presents a strategic and comprehensive roadmap to rejuvenate the handicraft industry in Tripura. By focusing on market access, skill development, infrastructure improvement, sustainability, and policy support, the roadmap aims to revitalize the sector, ensuring its growth and sustainability. The successful implementation of this plan will preserve the rich cultural heritage of Tripura’s handicrafts and contribute significantly to the economic development of the state and the livelihoods of its artisans.

This study report outlines the present status of the Handicrafts sector of Tripura, based on a state-of-art literature review, field surveys, interaction studies, participatory research, narrative inquiry, and analytical documentation. Based on the findings of this study, a roadmap has been prepared to rejuvenate the Handicrafts of the State. The roadmap includes mapping the critical issues faced by the artisans and crafts persons of Tripura and suggestions to be incorporated to add value addition, enhance productivity, reduce the drudgery of the artisans, and explore new marketing opportunities for hand-crafted products. The roadmap also highlights short-term and long-term strategies to upgrade the skills of the artisans, digital marketing tools and platforms to expand the business, ITC enablement-developing an ecosystem for an innovative entrepreneurial environment through developing linkages between traditional and industry-based skills, fostering academia-industry collaborations focusing on skill based education and vocation, and creating a network of diverse stakeholders capable of contributing in this mission.

Chapter 1

A Global Perspective of Handicrafts

The handicraft industry is a dynamic and diverse sector that plays a significant role in the economies and cultures of various countries across the globe. It is a key component of the creative economy and often reflects traditional skills, heritage, and local culture, while adapting to global trends. The Development Commissioner (Handicrafts) (Ministry of Textiles) defines handicrafts as hand-made products or products developed from simple tools that are more artistic and reflect traditional values. These products generally feature utilitarian aesthetics rooted in traditions, creativity, and function, along with socially or religiously symbolic attributes (Majeed, 2018). The handicrafts of every region and country are thus a direct reflection of their corresponding lifestyle, needs, culture, materials, and traditions. Being thoroughly local, handicrafts native to a particular region and community embody sustainability, circularity, and low ecological footprint throughout their lifecycle.

According to the World Bank report submitted to the United Nations in 2020, almost 78% of the unorganized workforce practices handicrafts, with the sector contributing to nearly one-fourth of the World GDP. What is more interesting is that almost 87% of the handicraft workforce comprises women, especially around India, Indonesia, Africa, the Middle East, and others. Also, the handicraft industry promotes intercultural communication, emphasizing the value of each community's unique contributions to global cultural heritage (Ghose & Ali, 2023a). However, the handicraft sector has suffered a setback with growing globalization and increased production and use of plastic products. Industrial mass production has overtaken the meticulously crafted traditional product range, resulting in many crafts persons moving away from their legacy and renouncing these crafts. However, the world also experienced a dual scenario concerning the growth and promotion of the handicraft sector. On the one hand, the rise of globalization reduced the dependence on handcrafted products and goods. It replaced them with machine-made alternatives, and on the other hand, globalization has also opened the markets and potential for the global promotion of handicrafts through tourism, markets, and much more (Majeed, 2018). Since handicrafts are an integral part of the distinctive cultural identities of many nations, we must identify and preserve this legacy to prevent its eventual extinction (Grobar, 2019).

Among the countries with the highest ratings for handmade goods, India has the widest variety of handicrafts (Yadav et al., 2022). However, due to a lack of profound exploration, India's handicraft exports account for less than 2% of global exports. In India and most of the developing countries, workers in the handicraft industry usually come from low-income families, face challenges related to low literacy, restricted access to contemporary resources, and low wages, which affects their ability to receive training and advancement, directly preventing their participation in the global markets. As a result, the sector faces problems like a lack of qualified labour, non-uniform quality, and limited design innovation, all hindering the sector's potential for expansion (Jadhav, n.d.). However, the handicraft industry is vital to the economy due to its high percentage of value addition, cheap capital investment

requirements, and strong potential for export and foreign exchange. The handicraft sector must be prioritized in policymaking and brought to the forefront (Majeed, 2018). The handicraft industry, which offers essential income and employment opportunities, particularly in rural regions and for women in developing nations, is driven by traditional skills passed down through generations. Moreover, this industry is intimately related to a country's tourism sector (Grobar, 2019; Shankar Yadav et al., 2022), and when the cross-border trade in goods and ideas increases, so does the significance of protecting Indigenous peoples' cultural heritage and sustainable ways of life (Ghose & Ali, 2023a).

Many initiatives have been put forth globally to optimize the potential of the handicraft sector and preserve and promote its growth. UNESCO became one of the significant pioneers by putting forth the issues of protection, promotion, and codification of handicrafts in the International Symposium on *Crafts and the International Market* conducted in 1997. Handicrafts are supported and promoted by international organizations like UNESCO's Intangible Cultural Heritage program, the World Crafts Council, the International Trade Centre's Crafts Sector Development program, the Global Fund for Cultural Diversity, and national initiatives like the Crafts Council of India, National Handicrafts Development Program, Handicraft Artisans' Welfare scheme, and many others. Moreover, with the emergence and popularization of online retail and digital platforms, the handicrafts industry has seen a positive impact and currently offers a vast potential for development. These organizations have attempted to preserve traditional skills, improve market accessibility, and promote cultural diversity. And not to undermine that traditional handicrafts boast of eco-friendliness and sustainability, their demand and appreciation have increased immensely and offer a vast scope for exploration and research.



Figure 1: Global handicrafts Market Projections (Source: PRNewswire, 2023; <https://www.prnewswire.com/news-releases/handicrafts-market-size-to-grow-by-usd-407-15-billion-between-2022-and-2027-asian-handicrafts-pvt-ltd-crossroads-foundation-among-others-identified>)



Figure 2: UNESCO Creative Cities Program to Boost Handicrafts (Source: UNESCO)

Chapter 2

The Handicraft Elegance of India

From its past glory, the handicrafts of India speak of its rich culture, diverse traditions, and excellent craftsmanship. No other country in the world has preserved and upheld the ancient crafts in such pure form as India does. India's age-old handloom weaving activity has passed through several historical, political, and economic developments (Islam, 2021). Similarly, pottery, jewelry, bamboo and wooden crafts, stone and metal crafts, and a list that could go on forever uphold the Indian craft legacy, which is high and proud. The local crafts have proven instrumental in resisting British imports in the 1920s under the leadership of Mahatma Gandhi and the essence of the Indian Independence movement.

M. P Ranjan, in his book titled *Handmade in India*, says: “*The panorama of Indian crafts is a patchwork quilt of many hues and shades of meaning, reflective of interactions with social, economic, cultural, and religious forces. And the craft world is full of contrasts, a universe of utility products and sacred objects, articles for ritual use and ephemeral festival crafts, representing many levels of refinement-from the simplest to the most technically advanced*”. The *minakari* and *khatam band* woodwork from Kashmir, the blue ceramics craft of Jaipur, the *chikankari* embroidery of Lucknow, the *Kannadi* or metal mirrors from *Aranmula*, the *chappals* or footwear from Kolhapur, and the bamboo craft of Assam are some of the most well-known Indian crafts. The Indian craft history is also preserved by other, lesser-known crafts like the stitched boots from Ladakh, the *jadupatua* paintings from Jharkhand, the headgear made in Kathakali and Theyyam, and the *khadi* or tinsel printing from Ahmedabad (Ranjan, M. P., Ranjan, A., 2007).



Figure 3: Handicrafts of India (Source: <https://necessitystore.in/history-and-legacy-of-indian-handicrafts/>)



Figure 4: Craft Map of India (Source: heritagehandicraft.com)

Indian artisans, for ages, have had a native sense of how to use a variety of artistic aspects, such as colour, texture, and design, combining these with materials and finally coming to how they interacted with one another (Ghose & Ali, 2023).

The key obstacles that the Indian handicraft industry must overcome include a lack of coordination in marketing, a lack of accurate data bank and market data, inadequate infrastructure, such as workspaces and constant power outages, a lack of funding for product development, and barriers to procurement of raw materials and technology. The artisans are not updated on current market trends, so they cannot create a competitive and suitable product range, and marketing strategies are mostly absent. Additionally, lacking in product design, distribution, and organizational and management expertise, most Indian craftspeople struggle to make ends meet. They have lacked institutional support for a long time, and the initiatives taken have not trickled to the grassroots. The skills of artisanry are passed down from generation to generation. Still, in the modern era, second-generation artisan families are unwilling to continue their business due to witnessing their parents struggle to find markets and a reasonable product price. The school curriculum and educational set-up do not include lessons regarding craft development, historic craft legacy, and training on how Indian crafts can be developed as a mainstream sector (Majeed, 2018).

India's handicraft industry, a cornerstone of its cultural heritage, has faced numerous challenges, including declining demand, competition from mechanized production, and diminishing artisan communities. Despite numerous problems faced by the handicraft industry, the sector employs a large number of people—more than 70 lakh artisans and 67,000 exporters, many of whom are women and members of marginalized communities—and it becomes crucial to promote these regional crafts both nationally and globally (Datta & Bhattacharyya, 2016).

However, the following states have implemented innovative strategies to rejuvenate their traditional crafts, preserving their cultural significance while making them economically viable.

- 1. Rajasthan: Block Printing-** Rajasthan's block printing industry, particularly in regions like Bagru and Sanganer, faced declining demand due to competition from machine-made textiles and environmental issues from chemical dyes. The revival began with blending traditional aesthetics with contemporary designs, appealing to modern consumers. Partnerships between local artisans and designers provided fresh ideas while retaining the authenticity of the craft. In the industry, stakeholders adopted Eco-friendly practices, such as using natural dyes and water recycling methods, to address the issues related to sustainability. The state also hosted craft fairs and promoted tourism, allowing artisans to showcase their work directly to consumers, boosting visibility and sales.
- 2. Gujarat: Bandhani and Patola-** Gujarat's traditional crafts of Bandhani (tie-dye) and Patola (double ikat weaving) struggled due to the high cost of production, lack of younger artisans, and limited market reach. The state government-initiated skill development programs to train the next generation and provided subsidies for materials. Digital marketing workshops enabled

artisans to tap into e-commerce platforms, breaking geographical barriers. Collaborations with fashion brands brought these crafts into the mainstream market. Despite initial resistance to technology, sustained efforts and the creation of exclusive geographical indications (GI tags) helped secure the heritage of these crafts and expand their global reach.

3. **Odisha: *Pattachitra***- Odisha's Pattachitra art, known for its intricate mythological paintings, faced a crisis as artisans found it challenging to sustain their livelihoods due to limited market access and competition from cheaper imitations. Revival efforts included branding the art as a premium heritage product and organizing exhibitions and workshops. The government initiatives leveraged E-commerce platforms to connect artisans directly with buyers worldwide, bypassing intermediaries. NGOs and other stakeholders utilized government schemes to provide training and financial support, ensuring sustainable practices and fair wages. The introduction of new mediums, such as hand-painted sarees and home décor, expanded the market while retaining the essence of the art.

4. **Tamil Nadu: Handloom Silk**- Tamil Nadu's handloom silk industry, centered in Kanchipuram, faced exploitation by weavers, fluctuating market demands, and competition from power looms. The state responded by promoting cooperative societies that ensured fair wages and access to credit for weavers. Marketing campaigns highlighted the cultural and artistic value of Kanchipuram silk sarees, turning them into a must-have item for weddings and festivals. Financial support from the government and private entities helped improve infrastructure and quality standards. Training programs empowered weavers to innovate while maintaining traditional weaving techniques, ensuring the industry's sustainability and growth.

Chapter 3

Handicraft Legacy in Tripura

Tripura, a culturally rich state in Northeast India, is known for its diverse ethnic communities, vibrant traditions, and exquisite handicrafts. Nestled amidst lush green hills and valleys, Tripura is a land of diverse communities, each contributing to the state's unique cultural tapestry. The state is primarily inhabited by various tribal communities, including the Tripuri, Reang, Jamatia, Noatia, and others, each contributing to the state's unique cultural heritage. The handicrafts sector holds a special place among its many artistic expressions, reflecting the creativity, skill, and traditional knowledge passed down through generations.

Tripura is often referred to as the 'paradise unexplored,' which harbours distinguished traditional crafts, majorly performed by women in rural areas. Tripura's predominant tribal population has long contributed to the region's rich tradition of handicrafts. Handloom weaving, the main craft in Tripura, is followed closely by silk, cane, bamboo crafts, Sheetal-patti, etc. The vertical and horizontal stripes with the scattered multi-coloured embroidery are the emblem of the handloom of Tripura. The tribal crafts include numerous furnishings, games, and useful products like baskets, calendars, light shades, and tribal jewellery from Tripoli. The craftsmen of Tripura are very skilled in creating exquisite handicrafts. The many ethnic groups create distinct and unique patterns with bamboo and cane (Debbarma & Murugesan, 2019).



Figure 5: Crafts of Tripura (Source: Project Files)

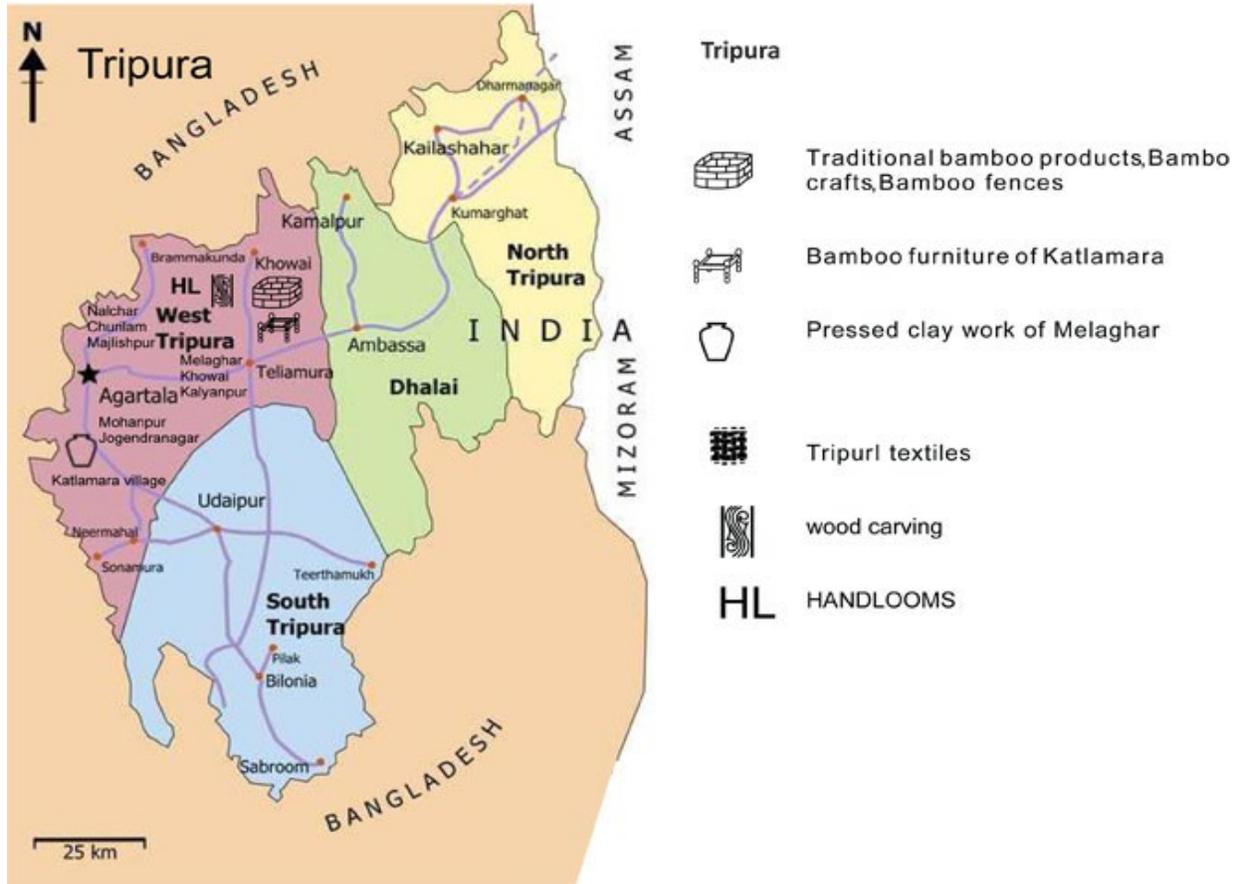


Figure 6: Craft map of Tripura (Source: Craft Council of India)

Significance and Modern Influence

Tripura's handicrafts are integral to the state's cultural identity and provide livelihood opportunities for many local artisans. The state government and various organizations have taken initiatives to promote and preserve these traditional crafts, offering training programs and setting up markets for artisans to sell their products.

Tripura's handicrafts have gained popularity beyond the state in recent years, with growing demand in national and international markets. This has encouraged a fusion of traditional and contemporary designs, making these crafts appealing to a broader audience while preserving their cultural essence. Tripura's handicrafts are a testament to the state's rich cultural heritage, reflecting the skills, creativity, and traditions of its indigenous communities. These crafts, deeply rooted in the daily lives and rituals of the people, continue to thrive, adapting to modern influences while maintaining their authenticity. The handicrafts of Tripura are characterized by their intricate designs, vibrant colours, and the use of locally available materials. The state is particularly renowned for its bamboo and cane crafts, which are functional and highly artistic. Artisans in Tripura skilfully transform bamboo and cane into various products, including baskets, furniture, mats, and decorative items, all in high demand within and beyond the state. The handicrafts sector in Tripura is an important cultural asset and a vital component of the state's economy. It employs a significant portion of the population, particularly in rural areas, and plays a crucial role in preserving traditional skills and knowledge.

Bamboo plays a significant role in local handicrafts in Tripura due to its versatile nature and abundant availability. Here are the main bamboo species used and how specific parts are utilized for different handicrafts:

Bamboo species locally available in Tripura	Scientific name	Characteristics and Various uses
1) Muli Bamboo	<i>Melocanna baccifera</i>	Muli bamboo is known for its thick walls and strength. The middle section is moderately hard used for furniture, baskets, and construction materials due to its durability. While the top section is more flexible, employed in making smaller items like mats and winnowing fans.
2) Kali Bamboo	<i>Bambusa balcooa</i>	This bamboo is strong and dense, making it ideal for heavy-duty items. The upper section is softer used for larger items like baskets and winnowing trays. While the lower section is relatively harder preferred for weaving fine mats, fans, and other intricate items due to its pliability.
3) Jati Bamboo	<i>Bambusa vulgaris</i>	Known for its relatively thicker walls and robust structure. The lower part is harder employed in making frameworks, structural parts of furniture, and large baskets. And the upper part is softer utilized in smaller decorative items, like lampshades and small baskets.
4) Kanak Kaich Bamboo	<i>Bambusa tulda</i>	This bamboo is flexible, with a softer texture, making it easy to work with. The upper section is softer used for larger items like baskets and winnowing trays. While the lower section is relatively harder preferred for weaving fine mats, fans, and other intricate items due to its pliability.

Local Product Range



Toilanga



Chinpai



Yaaying (or dolna)



Worna



Chokhoi kho



Lucy (or Oosha) / takes two days to make, is INR 400

Present status of Handicraft Sector in Tripura

The handicraft sector in Tripura holds a significant place in the state's socio-economic framework and cultural heritage. The sector is known for its distinctive traditional craftsmanship, which is deeply rooted in the practices of the indigenous tribes of Tripura, with artisans crafting products from locally abundant materials such as bamboo, cane, and textiles. Together, these crafts add cultural value and contribute to the local economy through sales within the state and beyond.

Employment in the handicraft sector is substantial, especially in rural and tribal areas. The sector is estimated to employ around 30,000 to 35,000 artisans, with a significant share—about 60% to 65%—being women (*Ministry of Statistics; handicrafts*). This female majority highlights the sector's role in promoting women's empowerment, providing them with financial independence and a source of livelihood. Many youths are also finding employment in the sector through family traditions or training programs, helping to mitigate unemployment in rural areas. The handicraft sector thus serves as a vital supplementary source of income for numerous families, especially during off-season agricultural periods, strengthening economic security and contributing to poverty alleviation.

Support from the Government of Tripura and various NGOs has been instrumental in sustaining and growing the handicraft sector. Training programs funded by various government schemes have helped artisans improve their skills and adapt to modern market demands. Additionally, artisans benefit from financial aid and subsidies on raw materials and cooperative societies that help manage funds and provide a more stable income. In recent years, the government has worked to link artisans with online markets, allowing them to reach broader national and even international audiences, which is crucial for the sector's long-term growth.

Economically, the handicraft sector contributes approximately 5% of Tripura's Gross State Domestic Product (GSDP) from the informal sector, with an estimated annual turnover of INR 200–250 crore (*finance.tripura.gov.in*). The state has seen a gradual rise in the export of bamboo and cane products, further enhancing the sector's economic contribution and exposing Tripura's unique handicrafts to global markets. However, the sector faces challenges, including limited access to broader markets, which restricts artisans to local sales. Rising raw material costs and the depletion of natural resources, like bamboo forests, add to the difficulties faced by artisans. Moreover, the lack of modernization in production methods hampers competitiveness, as artisans often work with outdated tools. Youth migration from rural areas in search of better opportunities threatens the continuity of these traditional skills.

Financial insights into Handicraft Industry of Tripura: Opportunities and Challenges

The Government of Tripura, supported by central initiatives, has implemented various schemes to boost the handicraft sector, enabling artisans to modernize while preserving traditional crafts. A key initiative by the Central Government, the **Pradhan Mantri Vishwakarma Scheme**, aims to empower artisans by offering skill training, raw material subsidies, and financial aid to foster entrepreneurship and enhance livelihoods. Additionally, the **Pradhan Mantri Kaushal Vikas Yojana (PMKVY)** provides vocational training that covers traditional techniques and contemporary methods to ensure that artisans remain competitive. Artisans received significant support under the "**Ambedkar Hastshilp Vikas Yojana (AHVY)**", which facilitates organizing artisans into self-help groups and cooperative societies, supports them with shared infrastructure and market access while connecting them to Common Facility Centers, where they can access advanced equipment and machinery. To further expand artisans' market reach, the **North Eastern Handicrafts and Handlooms Development Corporation (NEHDC)** assists with quality enhancement and links artisans to fairs and exhibitions across India, giving them greater exposure to large-scale buyers and helping them build business networks. The **Tripura Bamboo Mission (TBM)**, specifically focused on the sustainable use of bamboo, provides artisans with technical support and access to raw materials at reduced costs, facilitating innovative and high-quality bamboo products that appeal to contemporary markets.

The Government of Tripura, supported by central initiatives, has implemented various schemes to boost the handicraft sector, enabling artisans to modernize while preserving traditional crafts. A key initiative by the Central Government, the **Pradhan Mantri Vishwakarma Scheme**, aims to empower

artisans by offering skill training, raw material subsidies, and financial aid to foster entrepreneurship and enhance livelihoods. The **MSME Design Innovation Scheme** has introduced artisans to modern design practices and technology, allowing them to create more refined products that resonate with current consumer trends. This is complemented by the **National Handicrafts Development Programme (NHDP)**, which funds training camps and workshops focusing on new techniques, quality control, and productivity enhancement. Financial assistance for scaling up production also comes through various government loans and grants under the **MUDRA Yojana**, with subsidies on essential raw materials like cane and bamboo helping artisans reduce costs and improve profitability.

Corporate social responsibility (CSR) funds from multinational corporations (MNCs) have also been a source of crucial support. A notable initiative includes the Tripura Bamboo Mission (TBM), supported through CSR funding by ITC Limited (*The CSR Journal*). This partnership aims to enhance bamboo resource generation, provide technical support, and promote value-addition clusters such as furniture and handicraft production. The TBM works on a public-private partnership model, which has helped organize bamboo farmers into producers' societies and promote self-help groups, especially among women and marginalized communities. Over the years, these efforts have significantly increased the state's bamboo sector turnover. The **North Eastern Development Finance Corporation Limited (NEDFi)** has actively supported the bamboo sector in the North Eastern Region (NER) through various initiatives such as "Training on Bamboo Making Water Bottle," which has trained 11 artisans of Agartala, Tripura. Its Techno-Economic Development Fund (TEDF) studies explore the growth potential of bamboo and address challenges faced by the sector (www.nedfi.com). NEDFi has contributed to strengthening the value chain, promoting entrepreneurship, and providing financial assistance to bamboo artisans, cooperatives, and enterprises. Programs such as loans for women entrepreneurs and microfinance institutions have been integral to its strategy, alongside skill development initiatives and marketing support.

Chapter 4

Methodology and Approach

This study's primary objective is to develop a roadmap for rejuvenating the handicraft industry. In this regard, the study's approach has aimed to create a comprehensive understanding of the crafts, corresponding clusters, their narratives, and the current scenario. The study has looked at the craft clusters' inherent potentials and subsequent issues from varied lenses. The data collection method includes consulting various stakeholders and reviewing existing programs, institutional arrangements, and resource distribution, which are indispensable parts of the approach adopted. Stakeholder engagements have been open and communicative to collectively bring about the issues and liabilities and consequently develop recommendations and strategies. The study area has also been chosen specifically to get a comprehensive state-level picture while also creating an insight into the exclusivity of each cluster. The figure below describes the methodology adopted for the study.

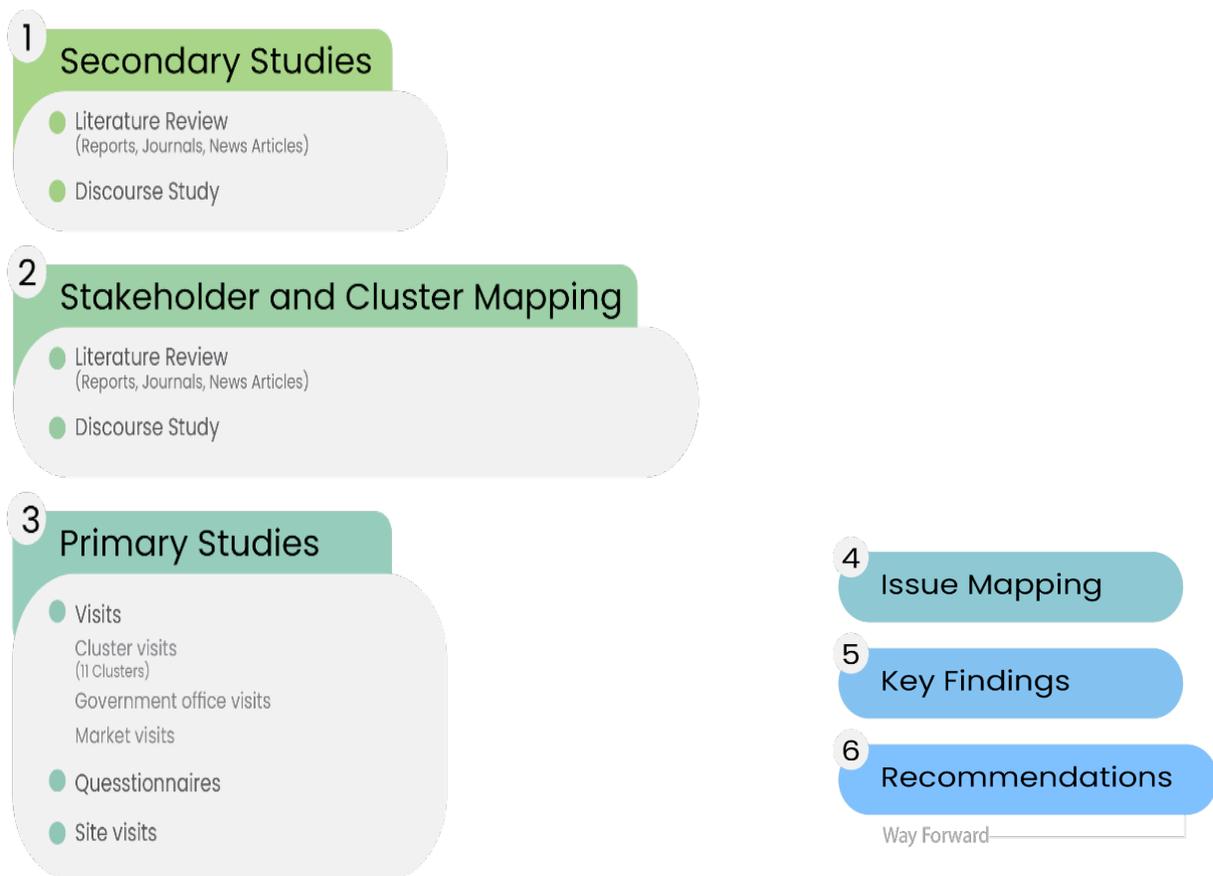
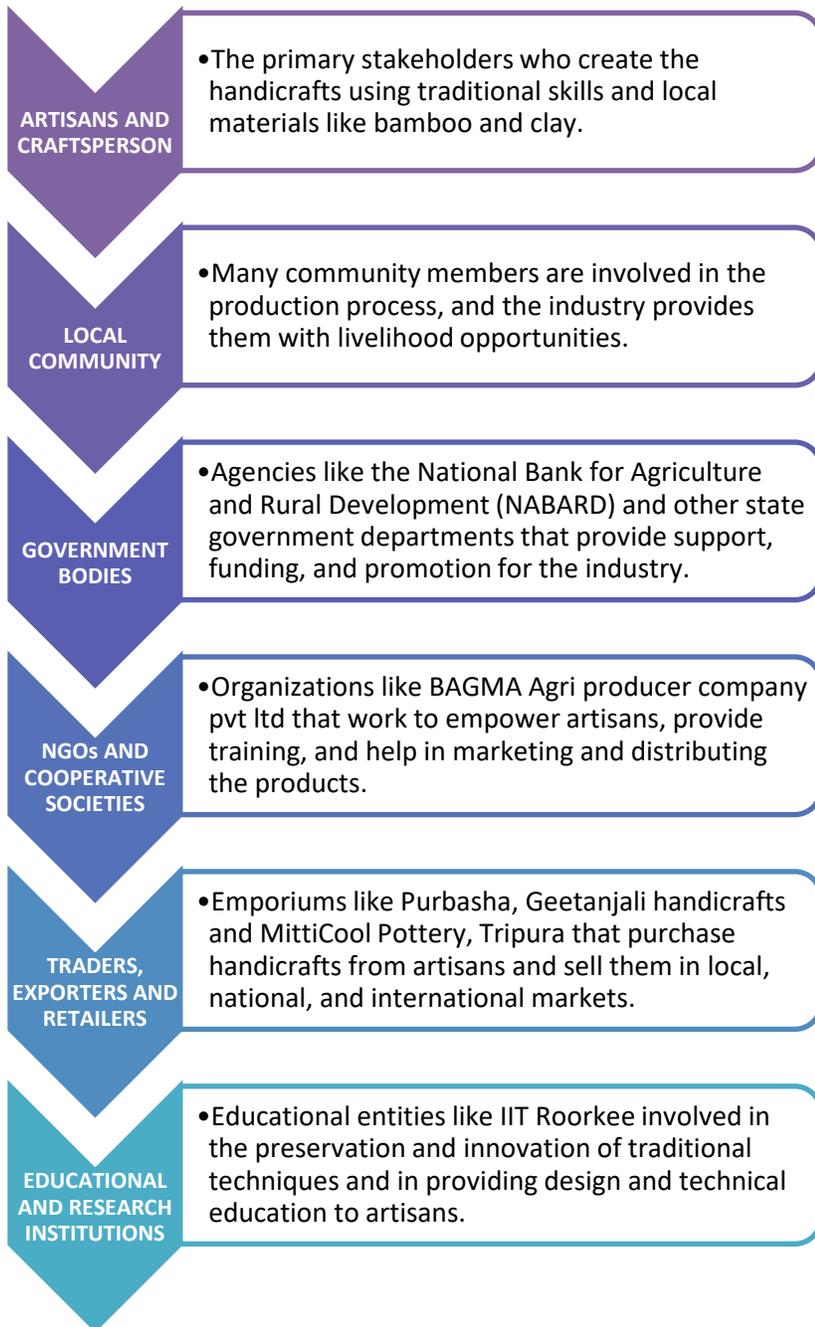


Figure 7: Methodology of the project (Source: Project Files)

Stakeholder mapping of the Tripura Handicrafts



Before proceeding with the site visits and interactions, we tried to understand and map the Stakeholders associated with the Tripura handicrafts. The attempt was also made to understand the role and involvement of different stakeholders at primary, secondary and tertiary levels. The figure represents the stakeholder structure of the Tripura Handicrafts and how subsequent influences are seen therein.

The stakeholder network of the Tripura Handicrafts is a very complex network, including crafts persons ranging from varied backgrounds (Cane, bamboo, pottery, etc.), government agencies, consumers, cooperatives, and more, but the challenge is low involvement and collaboration within the stakeholders. With the remote location of most clusters and constantly evolving dynamics with regards to handicraft, accurate stakeholder mapping and understanding the influence of different users is difficult and one of the main reasons for poor stakeholder collaboration.

The following map highlights the study area and the clusters that were visited and studied. The selection of clusters has been done to get a comprehensive picture of the handicraft industry and study diversity, exclusivity, and their current scenario.

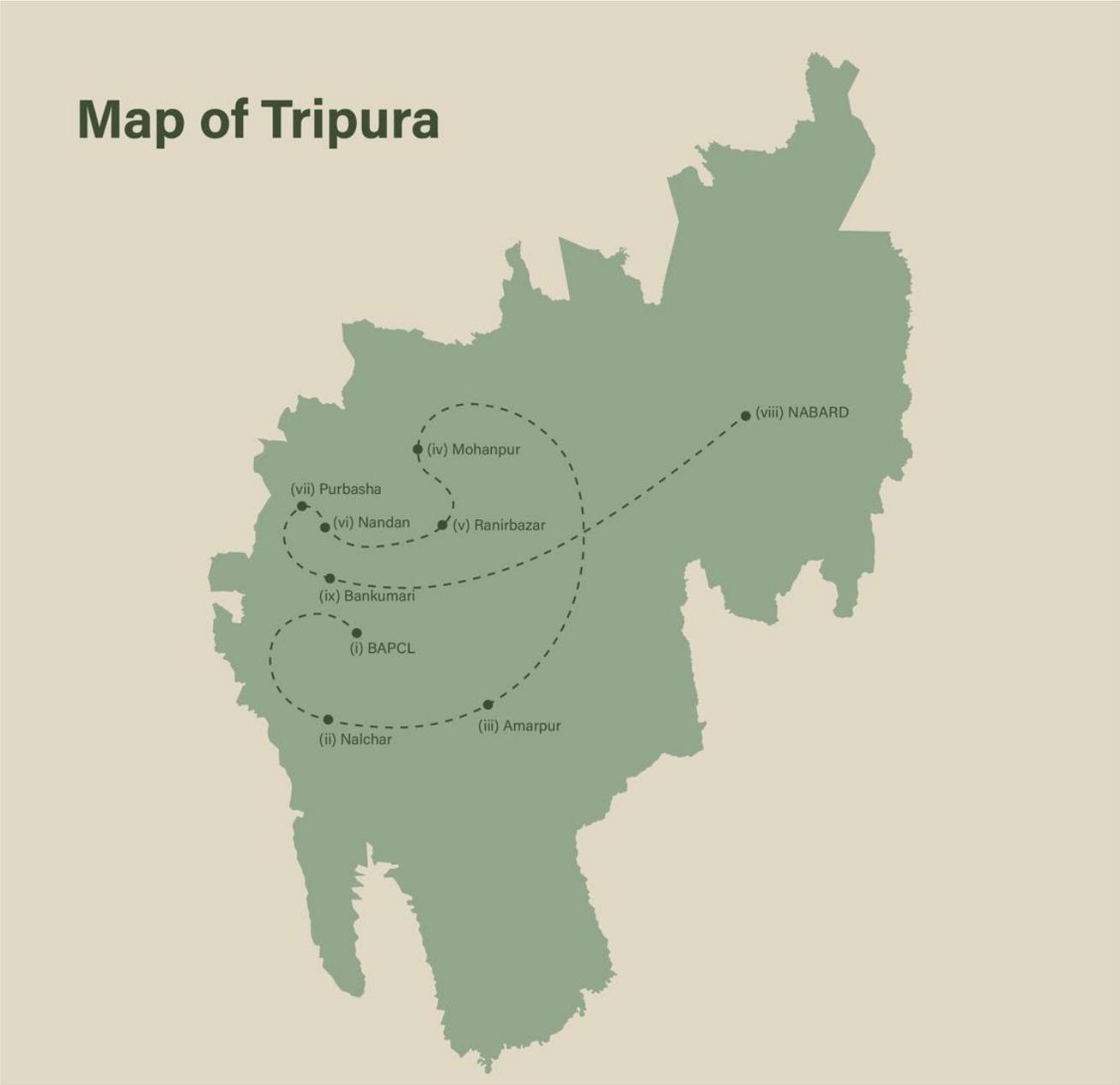


Figure 8: Journey map of the clusters visited in Tripura (Source: Project Files)

CRAFTS PRACTICED IN TRIPURA

1. HANDICRAFTS OF BAMBOO:

Bamboo crafts are highly significant in Tripura, where artisans create a wide range of products from bamboo. This craft showcases the versatility and sustainability of bamboo. The skill passed down from one generation to the next. They have an intimate knowledge of bamboo types and crafting techniques.

PROCESS:

1. **Harvesting and Preparation:** Bamboo is cut and treated. It is split into strips and cured to prevent decay.
2. **Designing:** Craftspeople plan their designs based on the intended use, whether for functional items or decorative pieces.
3. **Weaving and Assembling:** Bamboo strips are woven or assembled using techniques such as braiding, weaving, and lashing. Tools like knives and pliers are used for shaping and assembly.
4. **Finishing:** The crafted items are polished, and sometimes lacquered or stained to enhance their appearance and durability.



Figure 9: Process of making a bamboo handicraft from Tripura (Source: Project Files)

PRODUCTS:



Figure 10: Baskets, mats, furniture (such as chairs and tables), decorative items, and utility products in Tripura (Source: Project Files)

CHALLENGES:

ENVIRONMENTAL CONCERNS:

Degradation due to poor preservation techniques affects product longevity and quality.

COMPETITION FROM ALTERNATIVES:

Bamboo crafts faces competition from plastic-based synthetic or mass-produced alternatives.

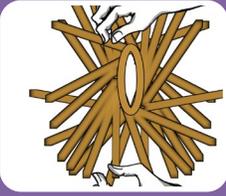
TECHNOLOGICAL GAPS:

Traditional methods are labour-intensive, less productivity and associated with health-drudgery.

STRATEGIES:

- **Sustainable Practices:** Promote and implement sustainable harvesting and processing practices to ensure bamboo resources are managed responsibly.
- **Innovation:** Develop new products or applications for bamboo that differentiate from mass-produced items.
- **Generational Skill Transfer:** Develop means of skill transfer between age-old traditional artisans and younger generation. Invest in training programs to enhance the skills of local artisans and ensure high-quality craftsmanship.

SUGGESTIVE DESIGN:



Decorative Accents:

Incorporate bamboo into home decor items like lampshades, wall art, or planters, emphasizing its natural beauty and versatility.



Modular Systems:

Develop modular bamboo systems for furniture or home organization that allow consumers to mix and match components.



Sustainable Packaging:

Use bamboo pulp and fibre as alternative by products for packaging to highlight the eco-friendly nature of the products.

Figure 11: Various suggestive design interventions (Source: Project Files)

2. POTTERY:

Traditional pottery in Tripura involves the use of clay to create functional and decorative items. Pottery is often handmade and reflects traditional methods. Potters are skilled in traditional methods of shaping and firing clay, with a strong understanding of local pottery styles and techniques.

PROCESS:

- **Clay Preparation:** Clay is sourced, prepared, and sometimes mixed with other materials to enhance its workability.
- **Designing:** Potters design their pieces, which can range from functional items like cooking pots to decorative pieces.
- **Shaping:** The clay is shaped using methods such as hand-building, wheel throwing, or moulding.
- **Drying and Firing:** The shaped pottery is dried and then fired in a kiln to harden and strengthen it.
- **Finishing:** Pottery may be glazed and fired again. Decorative patterns or designs are often applied.



Figure 12: Process of making clay pottery in the craft clusters of Tripura (Source: Project Files)

PRODUCTS: Clay pots, cooking vessels, Terracotta bottles, Diyas and other crockery items.

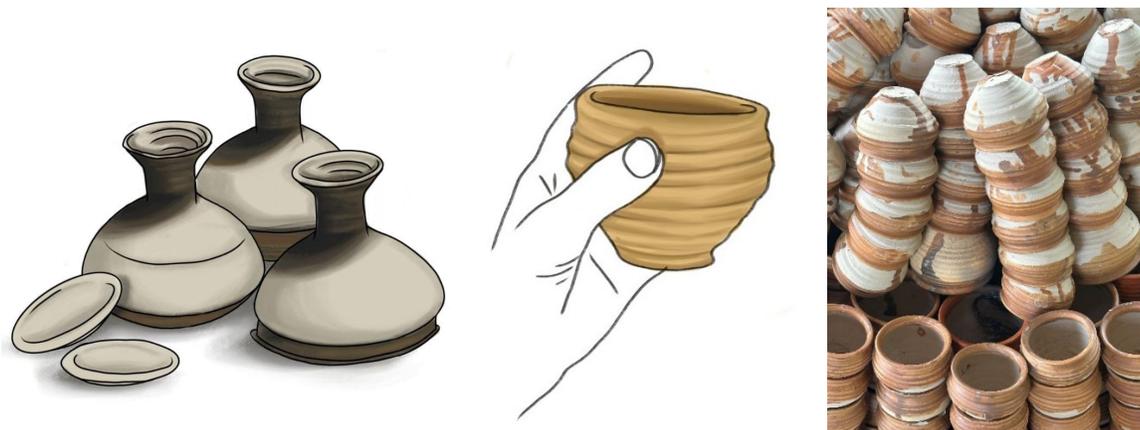


Figure 13: Sketches prepared and photographs of the products from various pottery clusters of Tripura (Source: Project Files)

CHALLENGES:

QUALITY CONTROL:

Ensuring consistency in the quality and finish of pottery items can be challenging.

COMPETITION:

Pottery often competes with mass-produced plastic, ceramics and cheaper alternatives.

POOR ERGONOMIC TOOLS AND MACHINERIES:

Use of traditional potter's wheel lacks in ergonomic effectiveness and causes severe spine and backache problems in artisans in longer run. Better ergonomic tools can increase the productivity.

STRATEGIES:

- **Quality Assurance:** Implement quality control processes and use innovative techniques to ensure high standards.
- **Unique Designs:** Develop unique, contemporary designs that set your pottery apart from mass-produced items.
- **Technological upgradation:** More Ergonomically sound tools and machineries to suffice good posture of artisans by increasing their productivity and making their working conditions better in long term practices.

SUGGESTIVE DESIGN:



Contemporary Forms:

Experiment with contemporary forms and shapes, such as abstract vases or sculptural pieces, while retaining traditional glazing techniques.



Mixed Media:

Combine pottery with other materials, like metal or wood, to create unique, hybrid products.



Functional Art:

Develop a line of functional pottery with artistic elements, such as beautifully designed kitchenware or decorative but usable containers.

3. BAMBOO ROOT CARVING:

Bamboo root carving is a unique craft where the roots of bamboo plants are intricately carved into decorative and functional items. This traditional craft is labour-intensive and requires significant skill. Skilled carvers with a deep appreciation for the natural forms of bamboo roots and a high level of artistic ability.

PROCESS:

- **Selection:** Bamboo roots are selected for their interesting shapes and textures. The roots are often collected from fallen bamboo plants.
- **Preparation:** The roots are cleaned and sometimes soaked to soften them for carving.
- **Designing:** Carvers sketch their designs based on the natural shape of the root, incorporating intricate patterns and figures.
- **Carving:** Using carving tools, artisans shape the roots into the desired forms, often depicting animals, mythological figures, or abstract patterns.
- **Finishing:** The carved items are sanded, polished, and sometimes treated with natural oils or varnishes to enhance their appearance and longevity.



Figure 14: Mythological characters carved from Bamboo Root in Tripura (Source: Project Files)

PRODUCTS: Decorative figures, sculptures, and intricate carvings that often depict animals, birds, and mythological figures.



Figure 15: Sketches prepared depicting the existing products made from Bamboo Root Carving, Tripura (Source: Project Files)

CHALLENGES:

MATERIAL AVAILABILITY:

Bamboo roots can be difficult to source and are often not as readily available as other materials.

COMPLEXITY OF CRAFT:

The carving process is labour-intensive and requires a high level of skill.

MARKET PERCEPTION:

Carved bamboo root items may be undervalued compared to more conventional art forms.

STRATEGIES:

- **Material Sourcing:** Establish reliable supply chains for bamboo roots and promote sustainable harvesting methods.
- **Skill Training:** Support and train artisans in advanced carving techniques to enhance their craftsmanship.
- **Market Education:** Educate consumers about the value and uniqueness of bamboo root carvings through marketing and storytelling.

SUGGESTIVE DESIGN:



Abstract Art:

Explore abstract and modern art forms using bamboo roots, creating sculptures or decorative pieces that appeal to contemporary tastes.



Functional Art:

Incorporate carved bamboo roots into functional items like unique furniture handles, door knobs, or home accessories.



Inlay Work:

Combine bamboo root carvings with other materials, such as metal inlays or colored resins, to create intricate, eye-catching designs

4. SHITAL PATTI:

Shital patti is a traditional hand-woven mat made from cane strips. These mats are valued for their cooling properties and aesthetic appeal. Shital Patti is known for its intricate weaving using bamboo mesh and a unique type of grass called "Murta" (*Schumannianthus dichotomus*). This grass is known for its flexibility, strength, and sustainability. However, with the declining availability of Murta, many craftsmen have shifted to using plastic, which is unsustainable and diminishes the environmental and cultural value of the craft.

PROCESS:

- **Material Preparation:** Cane strips are cut and processed to be used in weaving. The cane is usually soaked to make it more pliable.
- **Designing:** Artisans create designs and patterns for the mats. Traditional patterns often include geometric shapes and symbolic motifs.
- **Weaving:** Using a loom or hand-weaving techniques, the cane strips are woven with Murta grass (traditionally) into mats. Artisans work with precision to ensure tight and consistent patterns.
- **Finishing:** The mats are trimmed, and edges are secured. Some mats may be dyed to add colour.

PRODUCTS: Mats used for seating, sleeping, curtains and wall decoration, often with elaborate patterns and designs



Figure 16: Shital Patti Products currently sold in the Craft outlets of Tripura (Source: Project files)

CHALLENGES:

UNAVAILABILITY OF RAW MATERIALS:

Due to extinction of the Murta grass, there is a need for alternative material with good binding property to tie the bamboo/ cane stripes in Shital Patti

CULTURAL PRESERVATION:

The traditional techniques and designs of Shital Patti may be at risk of fading with modernization.

COMPETITION FROM SYNTHETIC MATERIALS:

Shital Patti faces competition from synthetic mats that are cheaper and more widely available.

STRATEGIES:

- **Alternative for sustainable raw materials:** To address this issue, exploring alternative materials that are sustainable, eco-friendly, and similar in characteristics to Murta grass is essential. Below are some potential alternatives-

ALTERNATIVE MATERIALS	CHARACTERISTICS	ADVANTAGES	CHALLENGES
1) Banana Fibre	Banana fibre is a natural fibre extracted from the pseudo-stem of banana plants. It is biodegradable, strong, and has a similar	It is abundantly available in many regions, including north-east India, making it a viable and sustainable alternative. The fibre	Processing banana fibre requires specific techniques, and craftsmen might need training to adapt to this new material.

	flexibility to Murta grass.	also has a smooth texture, which can add aesthetic value to the handicrafts.	
<p>2) Jute</p> 	Jute is a long, soft, and shiny vegetable fibre that can be spun into coarse, strong threads. It is one of the most affordable natural fibres and is biodegradable.	Jute is widely available in India, including in north-east India. It is durable, eco-friendly, and has a texture that can mimic Murta grass in handicrafts.	Special treatment processes are needed to make it more flexible and suitable for intricate weaving.
<p>3) Water Hyacinth</p> 	Water hyacinth is an aquatic plant that grows in abundance in water bodies. Its dried stems are strong, flexible, and can be woven into various products.	Water hyacinth is often considered a nuisance due to its invasive nature, so harvesting it for crafts can help in controlling its growth. It is also biodegradable and has a similar texture to Murta grass.	It requires careful drying to ensure durability.
<p>4) Cotton Yarn</p> 	Cotton yarn is soft, flexible, and easily available. It can be dyed in various colours, offering versatility in design.	Cotton is biodegradable, sustainable, and widely used in textile industries, making it easily accessible. It is also soft, making it comfortable to work with.	Cotton may not provide the same structural strength as Murta grass, so it might need to be combined with other materials for added durability.

- **Cultural Promotion:** Emphasize the cultural significance and traditional methods of Shital Patti in marketing campaigns.
- **Product Diversification:** Create modern applications for Shital Patti, such as incorporating it into contemporary home decor or fashion.
- **Market Expansion:** Explore new markets and use online platforms to reach a global audience interested in traditional crafts.

SUGGESTIVE DESIGN:



Home Decor:

Expand *Shital Patti* use into modern home decor items such as wall hangings, or table runners, integrating traditional patterns with contemporary aesthetics.



Innovative Patterns:

Develop new patterns and color combinations that blend traditional designs with modern trends to attract a younger audience.



Custom Sizes:

Offer *Shital patti* mats in various sizes and shapes to suit different uses, from large area rugs to small decorative pieces.



Functional Items:

Create multi-purpose items like *Shital patti* covered furniture or storage boxes/ organizers that incorporate traditional weaving into everyday objects.

5. BAMBOO AND CANE FURNITURES:

Cane furniture in Tripura is crafted from natural cane, known for its durability and lightweight nature. This craft is a significant part of local craftsmanship. Artisans who specialize in cane furniture, are combining traditional techniques with innovative designs.

PROCESS:

- **Material Selection:** Cane is harvested, prepared, and treated. The cane is typically split and cured.
- **Designing:** Designs for furniture are created, focusing on both functionality and aesthetics.
- **Weaving and Assembling:** Cane strips are woven or assembled into furniture frames. Techniques include weaving and interlacing.
- **Finishing:** Furniture is finished with polishing, staining, or varnishing to enhance appearance and durability.

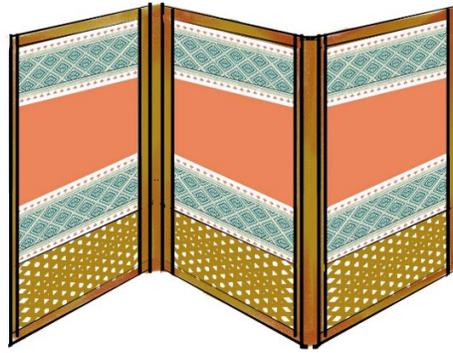


Figure 17: Sketch for suggestive design for the partition wall created with Bamboo/ Cane of Tripura (Source: Project files)

PRODUCTS: Chairs, tables, sofas, and other furniture pieces, often featuring intricate weaving patterns.



Figure 18: Various furniture made as a part of bamboo and cane craft in some clusters of Tripura (Source: Project files)

CHALLENGES:

DURABILITY ISSUES:

Cane furniture suffer from wear and damage if not properly treated.

MARKET COMPETITION:

Cane furniture faces competition from modern and synthetic alternatives.

PRODUCTION SCALE:

Mass production with quality is a challenging task.

STRATEGIES:

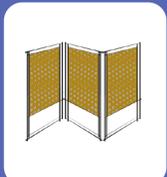
- **Durability Enhancement:** Use treatments and finishes that increase the durability and longevity of cane furniture.
- **Innovative Designs:** Design modern and stylish cane furniture pieces that appeal to contemporary tastes while preserving traditional elements.

SUGGESTIVE DESIGN:



Modern Aesthetics:

Create cane furniture with sleek, modern lines and minimalist designs that appeal to contemporary home decor trends.



Modular Designs:

Develop modular cane furniture pieces that can be easily reconfigured or adapted to different spaces.



Mixed Materials:

Integrate cane with other materials like metal, glass, or upholstered fabrics to create hybrid furniture pieces that are both stylish and functional.

6. BAMBOO/CANE JEWELLERY:

The Bamboo jewellery is the craft that utilizes bamboo and cane to create stylish and lightweight jewellery. Artisans often employ traditional weaving techniques to produce intricate designs.

PROCESS:

- **Harvesting:** Bamboo and cane are harvested from local forests. The materials are selected based on their flexibility and strength.
- **Preparation:** The bamboo and cane are split, cleaned, and treated to remove impurities and enhance durability.
- **Designing:** Artisans create designs for jewellery pieces, which are often inspired by natural patterns and traditional motifs.
- **Weaving and Shaping:** The bamboo and cane are woven or shaped into jewellery pieces. Techniques may include braiding, coiling, or wrapping.
- **Finishing:** The jewellery is polished, dyed (if necessary), and fitted with clasps or other fastening mechanisms.

PRODUCTS: Necklaces, bracelets, earrings, and rings made from bamboo and cane, often dyed in vibrant colours.



Figure 19: Sketches prepared to showcase the product range in the bamboo jewellery of Tripura (Source: Project files)

CHALLENGES:

MATERIAL DURABILITY:

Bamboo and cane can be susceptible to wear and tear, particularly if not treated properly.

LIMITED MARKET REACH:

Bamboo and cane jewelry may have limited appeal outside of niche markets.

CRAFTSMANSHIP CONSISTENCY:

Achieving uniform quality in handmade jewelry can be difficult.

STRATEGIES:

- **Material Treatment:** Use advanced treatment methods to enhance the durability and longevity of bamboo and cane.
- **Market Expansion:** Explore new markets by showcasing the unique attributes of bamboo and cane jewellery in online platforms and fashion shows.

SUGGESTIVE DESIGN:



Bold Patterns:

Experiment with bold, intricate patterns and weaves that can stand out in both traditional and contemporary fashion contexts.



Colour Variations:

Use natural dyes or eco-friendly paints to add colors to bamboo and cane jewellery, enhancing visual appeal and variety.



Mixed Materials:

Combine bamboo and cane with metals, beads, or semi-precious stones to create hybrid designs that offer both durability and aesthetic interest.

Chapter 5

Handloom Clusters in Tripura

As part of the field study, visits to various handicraft clusters in Tripura were made to explore traditional crafts and practices, fostering insights into local artisan communities and their unique cultural heritage.

CLUSTER-A - Location: NALCHAR



Figure 20: Location of Nalchar Cluster (Source: Project Files)

Nalchar Bamboo Craft Producer Company Limited highlighted the importance of machinery in the manufacture of bamboo-based crafts during a visit to Nalchar (Rajibnagar), emphasizing how it may improve and streamline the crafting process. Craftpersons from nearby areas who have been engaged in bamboo crafts for many generations can find a workspace here. It is evident that the abilities needed for the trade demonstrate patience, inventiveness, and the capacity to use all of the material's qualities to create novel results. Local sources provide the material, which is bamboo. Typically, they sell their goods to private dealers in states like Karnataka, Himachal Pradesh, Uttarakhand, Maharashtra, Delhi, and Haryana. Additionally, twice or three times a year, they engage in and display their items at the NABARD Mela.

Government Initiatives in Nalchar Bamboo Craft cluster:

Government programs have helped artisans in the Nalchar Bamboo Craft cluster grow their current businesses. For example, PM Vishwakarma Yojana, a credit program, has supported 40–50 cluster artists. Additionally, workshops for skill development were arranged under the Skill India program. To assist the craftspeople in developing their entrepreneurial skills, the Entrepreneurship Development Institute of India (EDII) arranged two workshops lasting ten and thirty days.

Existing equipment and machines assisting the process in Craft practices



Figure 21: Various tools and equipment used to assist the process of Bamboo craft practices in Nalchar (Source: Project Files)

Weaving Bamboo basket



Figure 22: A lady making bamboo basket in the workshop of Nalchar (Source: Project Files)

Existing Product categories





Figure 23: Variety of Bamboo and Cane products from handicraft cluster of Nalchar (Source: Project Files)

CLUSTER- B - Location: AMARPUR

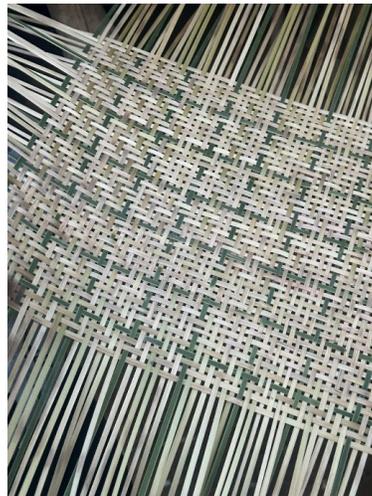


Figure 24: Location of the cluster and various Bamboo craft practices in Amarpur (Source: Project Files)

Amarpur is a town situated in the Gomati district of Tripura, India. It is known for its scenic beauty, lush greenery, and the Gomati River that flows through the region. The area is home to several indigenous tribes and has a rich cultural heritage. The region has a moderate climate with significant rainfall during the monsoon season.

The economy of Amarpur Cluster is primarily agricultural, with agriculture being the mainstay of the local population. The region also has cottage industries, particularly in handloom and handicrafts. The area is rich in tribal culture, with several indigenous communities like the Reang, Tripuri, and Jamatia have been residing here.

Existing products



Figure 25: Lucy or Oosha (Takes 2 days to make worth 400/-), Nokhai (Woven Basket), Takhook (Source: Project files)

CLUSTER- C - Location- PAUL PARA, MOHANPUR



Figure 26: Location of the cluster and pottery workshop in Mohanpur (Source: Project Files)

The *Mitti Cool Pottery* of the Mohanpur cluster showcased a variety of clay products such as water bottles, flower pots, flower vases, bowls, plates, tea cups, and glasses. For the past 20 years, artisans have been engaged in this craft. The items are used in cremation ceremonies and religious celebrations held in temples. Anthill Mud is the kind of mud that's utilized. The pictures show the equipment and technology that were employed. To increase output, *Jigar Jholi* machines were recently installed. When assessing the mud's suitability, a certain amount of experience is necessary. Minimal skill training is required to run the machines in the warehouse.

Currently, items are delivered to outlets in Agartala, Shillong, and Assam. There are no trade shows or exhibitions in which craftspeople participate. They lack direct market access and must rely on intermediaries to sell their products. This unit now earns roughly 25 lakhs per year and has not yet participated in any government schemes or received financial aid. The artists rely on their business as their principal source of income; thus, they foresee a long-term economic resource, with the expectation that future generations will participate only if labour inputs are decreased. The products are currently being tested by the CGCRI and the pollution control board to guarantee quality and conformity with the plans to continue refining and enhancing product designs to meet evolving market needs.

Pottery from the cluster





Figure 27: Various products in the Mitti cool pottery workshop in Mohanpur (Source: Project Files)

CLUSTER D: - Location- NANDAN NAGAR



Figure 28: Location of the cluster and pottery workshop in Nandan Nagar (Source: Project Files)

Nandan Nagar cluster is known for both pottery and bamboo crafts, where traditional materials including bamboo, *betur* stick (baith), and anthill mud are used to craft variety of products. However, artisans face several challenges, including the scarcity of skilled and reliable workers and difficulties in sourcing raw materials. The craft products are sold through middlemen, as the artisans do not participate in exhibitions or trade fairs. For these artisans, the craft serves as their primary source of income. The pricing of their products is largely determined by the cost of raw materials, tools, and labour. Looking ahead, the artisans hope to establish a proper manufacturing unit and warehouse facility. During Durga Puja, there is a surge in demand for their products.



Figure 29: Various products available in the pottery workshop in Nandan Nagar (Source: Project Files)

CLUSTER E: - Location- BANKUMARI



Figure 30: Location of the cluster and Bamboo workshop in Bankumari (Source: Project Files)

Bankumari cluster includes minor areas such as Jogendra Nagar, Majlishpur, Taliadora, Chakmaghat, Chandrapur, Gandhi Gram, and Champak Nagar that practice bamboo-based crafts. The largest cluster is Jogendra Nagar. This cluster generates approximately 20 to 25 lakh INR in annual revenue. The Jogendra Nagar cluster comprises of 1412 artisans. The society has 298 members, with 144 craftsmen being the most engaged and full-time workers.

There is a project where 95% of the workers are female. The payment to artisans is made according to the order. Bamboo weaving is used to make many different things. They have been working in this cluster since 1997. They sell their items at Purbhasa, Taliadora, Dharam Nagar, and Ambasa. They also organize fairs and sell directly to clients. They sell in Delhi, Calcutta, Bengaluru, Chennai, and Mumbai. They are also establishing common facility centres (CFCs) as permanent structures in some regions. An initiative by the government, CHDCS with the project cost around 18 crores was introduced in 2023, benefitting 32 clusters in terms of training, fairs, exhibitions and research visits. Although there are schemes to promote the craft production, many craftsmen express reluctance to join in collective projects. The identified reason is preferring working from home rather than the workshop, which enables them to balance their creative pursuits while spending time with their family.

The process of producing high-quality creative crafts can occasionally be hampered by middlemen who enter the market and encourage craftspeople to produce inferior goods. They have to defend the craftspeople from those diversions.

In the past, this section promoted new designs by involving designers in its activities. A few of the craftspeople here have won national awards. Nalchar and Chorilum are the active clusters related to basketry that have the biggest turnover. The pasting of connected works is more active in Jogendra Nagar. The Tripura Handicraft Corporation sets the product prices. Typically, the craftspeople themselves bring the raw materials to this cluster. They occasionally supply the raw material as well.

CLUSTER F:

Location- CHANDRA NAGAR, SEPEHAJALA



Figure 30: Location of the cluster and Nakshi Katha handicraft from Chandra Nagar (Source: Project Files)

In the village, many women are engaged in the production of Nakshi Katha, a traditional handicraft made from waste cloth material. This craft enjoys significant demand, particularly in neighbouring Bangladesh, where it is highly valued. The Nakshi Kathas are produced both manually and with the help of sewing machines. However, the handmade versions command a higher price and greater demand, with each piece costing around ₹2,000. The process of creating a handmade *Nakshi Katha* is time-consuming; it takes between 5 to 7 days to complete one, depending on the number of hours worked daily. Typically, women are the primary producers of these crafts, while the men of the family are responsible for taking the finished products to the market in *Bartala* for sale. The profits from these sales are generally shared between the producers (the women) and the sellers (the men).

Machine-made Nakshi Kathas, on the other hand, cost about ₹1,000 to produce, with labor charges ranging between ₹400–500 and requiring around 5 hours of work. Despite the more affordable price, machine-made Kathas have not reached the same level of demand as the handmade ones.

However, the popularity of Nakshi Katha among the younger generation has been waning. Many educated young people in the village are opting for jobs in other sectors instead of continuing the traditional craft. This shift has contributed to a decline in the number of practitioners of this craft.

There is hope, however, that with the right training and motivation from NGOs and concerned authorities, the production of Nakshi Kathas could be scaled up to meet larger market demands. By offering necessary support and fostering interest, this valuable craft could regain popularity, providing sustainable livelihoods for many more artisans and expanding its reach in the market.

Strategies for future

Future aspirations regarding the craft include opening up of physical outlets in significant locations of the state, presence of a warehouse facility at suitable locations, skill-enhancement programs for artisans, capacity building, branding of the local products and market expansion through digital platform in national and international level. Awareness generation and capacity building exercises can help the artisans to connect with initiatives like ONDC and other online marketing platform. Such initiatives will also help to mitigate the problems like migration of rural youths to urban area in search of better economic avenues. The analysis of data collected through field-study depicts that there is a high demand of handicraft items during the festive seasons. However, there is a significant lack of demand and supply which needs innovative strategies to address the demand. For instance, product diversification can play an important role to address the market needs.

Chapter - 6

SWOT ANALYSIS of the clusters

(Strength, Weaknesses, Opportunities and Threats of the visited Handicraft clusters)

Cluster Name	Strengths	Weaknesses	Opportunities	Threats
1-Nalchar Cluster 	Existing Infrastructures and machineries to support production of bamboo handicrafts	Resistance from artisans to adopt mechanized processes. Limited product range affects adaptability to market trends.	Engagement of maximum artisans to the warehouse facilities. Expanding online presence with diverse product ranges	Increased competition due to reduced import duties on alternatives. Market manipulation and pricing pressures.
2-Amarpur Cluster 	Well-connected by road, enhancing accessibility. Rich tribal culture with indigenous communities (<i>Reang, Tripuri, Jamatia</i>) preserving traditional crafts.	Labor-intensive craft production with long working hours. Reliance on middlemen for product sales. Lack of diversification in products	Potential for cultural tourism to promote local crafts. Infrastructure development to enhance connectivity and production facilities.	Intense competition and market manipulation. Dependence on middlemen reduces artisans' profit
3-Paul Para, Mohanpur cluster 	Wide range of pottery: tea cups, glasses, bowls, plates, vases, and water bottles. Experienced artisans. Annual turnover of ₹25 lakhs indicates steady demand.	Poor connectivity limits business growth. Reliance on middlemen reduces profit margins. No participation in trade fairs or exhibitions.	Potential for innovative product designs. Direct-to-customer sales can increase profits. Future participation in trade fairs and exhibitions to expand market reach.	Dependency on middlemen for marketing.
4-Nandan Nagar Cluster (Bamboo handicrafts and	Two crafts (pottery and bamboo) practiced, offering product variety.	No proper manufacturing units or warehouse facilities.	Potential to establish organized manufacturing	Limited market access due to middlemen control.

<p>Pottery products)</p>  <p>A yellow map of Nandan Nagar with a red dot indicating the location. Below the map are icons of a woven basket and a pottery jar.</p>	<p>Traditional materials (bamboo, <i>betur</i> stick, cane, anthill mud) maintain authenticity. Primary income source for craftsperson ensures dedication to the craft.</p>	<p>Dependence on middlemen for sales. Lack of participation in exhibitions or trade fairs limits exposure.</p>	<p>and storage facilities. Direct marketing to customers through fairs, exhibitions, or online platforms. Product diversification.</p>	<p>Limited external support. Competition from similar crafts with better infrastructure and outreach.</p>
<p>5-Bankumari Cluster (Bamboo Handicrafts)</p>  <p>A yellow map of Bankumari with a red dot indicating the location. Below the map is an icon of a woven basket.</p>	<p>Annual turnover of ₹20–25 lakhs involving 1,412 artisans. Some artisans are national awardees, highlighting their craftsmanship and quality.</p>	<p>Insufficient government staff to support the sector. Influence of middlemen compromises product quality. Artisans unwilling to work in warehouses.</p>	<p>CHDCS project (₹18 crore investment, launched in 2023) offers structured training, exposure through fairs, exhibitions, and study tours for artisans. Potential to enhance product quality and expand markets through government initiatives.</p>	<p>Middlemen's influence on artisans to produce low-quality items undermines craft value. Reluctance to collaborate in groups could hinder scalability and organized growth.</p>

Chapter 7

Mapping Issues and key findings

The visits to different clusters in Tripura and our engagements with the artisans and other stakeholders brought forth multidimensional findings and highlighted various issues that mark hurdles in the sustainable development of the Handicraft sector in Tripura. A comprehensive understanding of these issues also points out many subsequent dimensions that need to be addressed towards the road map development for the sustainable rejuvenation of the handicrafts therein.

- 1. Lack of Infrastructure:** Many handicraft clusters in Tripura suffer from inadequate infrastructure, such as poor roads, limited access to reliable electricity, and insufficient workspace. This can impact the efficiency of production and the ability to scale operations
- 2. Traditional tools are not Ergonomic:** The field studies depict that most artisans use age-old, traditional tools. One primary concern in using those tools is that they develop ergonomic issues like back pain and musculoskeletal disorders among the artisans in the long run due to incorrect working posture.
- 3. Limited Market Access:** Artisans often face challenges in accessing larger and more lucrative markets. Limited exposure to national and international markets can restrict their ability to grow and compete.
- 4. Lack of interest from young generation:** There should be means to attract the next generation into this sector by making the craft the prospective source of income.
- 5. Skill Development:** While traditional skills are often well-preserved, there is a need for continuous skill development and training. Modern techniques, market trends, and technological advancements might not be adequately integrated into traditional practices.
- 6. Financial Constraints:** Many artisans struggle with financial constraints that limit their ability to invest in better tools, materials, and marketing. There is limited awareness among artisans about existing schemes related to loans and availing the credits for their benefit.
- 7. Marketing and Promotion:** Limited leverage of information technology for online marketing. Effective marketing and promotion strategies are often lacking. Without a strong brand presence or marketing strategy, handicrafts can remain undervalued and underrepresented in larger markets.
- 8. Raw Material Availability:** The availability and cost of raw materials can be inconsistent. Artisans might face challenges in sourcing quality materials at reasonable prices, which can affect the quality and cost of their products.

9. **Competition from Mass-Produced Goods:** Handicrafts often compete with mass-produced goods that are cheaper and more widely available. Labour intensive working processes, with relatively less return on investment. This competition can undermine the value of traditional crafts and impact sales.
10. **Cultural Preservation vs. Commercialization:** Balancing the preservation of traditional techniques and cultural elements with the need for commercial viability can be challenging. There's often a tension between maintaining authenticity and adapting to market demands.
11. **Lack of Design Innovation:** While traditional designs are a strength, there may be a need for product diversification and innovation to meet changing consumer preferences. Integrating contemporary design elements while preserving traditional techniques can be a complex task.
12. **Cluster-Based Development:** Currently the handicrafts clusters are fragmented and there could be cluster-based development for empowering artisans and streamlining market connections.

Chapter 8

Recommendations and Way Forward

1. SHORT-TERM RECOMMENDATIONS

A. Marketing and Branding Initiatives:

- **Develop a Brand Identity:** Create a cohesive brand identity for Tripura's crafts to distinguish them in the market. This includes logos, packaging, and promotional materials.
- **Online Presence:** Set up dedicated websites and social media profiles to showcase crafts. Use platforms like Instagram, Facebook, and Etsy to reach a broader audience.
- **Participate in Fairs and Exhibitions:** Join national and international craft fairs and exhibitions to increase visibility and attract buyers.

B. Skill Development Workshops:

- **Training Programs:** Conduct workshops for artisans to refine their skills and introduce new techniques. Partner with experts to provide hands-on training.
- **Design Innovation:** Offer workshops on contemporary design trends and consumer preferences to help artisans innovate within traditional crafts.
- **Ergonomic/ User-centric work space:** Initiate studies focused on ergonomics and design modifications of the existing tools and techniques in the Tripura handicraft sector. This approach will help resolve ergonomic problems, enhance artisans' overall well-being, and rejuvenate the handicraft sector.

C. Market Research and Analysis:

- **Consumer Insights:** Conduct market research to understand current trends and consumer preferences. Use this data to tailor products to meet market demands.
- **Competitive Analysis:** Analyse competitors to identify gaps and opportunities for differentiation.

D. Collaboration and Partnerships:

- **Local Partnerships:** Collaborate with local businesses and designers to create new product lines and expand market reach.
- **NGOs and Government Programs:** Engage with non-governmental organizations and government schemes that support handicrafts and provide financial or logistical assistance.

E. Quality Control and Standardization:

- **Implement Standards:** Develop and implement quality standards to ensure consistency and excellence in craft products.
- **Certification Programs:** Create certification programs for crafts to ensure authenticity and quality.

2. LONG-TERM RECOMMENDATIONS

A. Sustainable Development and Resource Management:

- **Eco-friendly Practices:** Promote sustainable harvesting of raw materials and the use of eco-friendly materials and processes in craft production.
- **Resource Management:** Implement practices to manage and conserve natural resources used in crafts, such as bamboo and wood.
- **Alternative sustainable materials:** Exploring eco-friendly materials in place of unsustainable materials such as plastic, used in the making of crafts.

B. Innovation and Design Integration:

- **Modernization:** Encourage the integration of contemporary design elements with traditional crafts to appeal to modern consumers.
- **Product Diversification:** Explore new product categories and applications for traditional crafts to broaden market appeal.

C. Education and Capacity Building:

- **Craft Schools:** Establish craft schools or training centres dedicated to traditional and contemporary craft techniques.
- **Scholarships and Grants:** Provide financial support for artisans to pursue advanced training and education in design and business.

D. Infrastructure Development:

- **Craft Villages:** Develop craft villages or clusters with necessary infrastructure such as workshops, showrooms, and storage facilities.
- **Logistics and Supply Chains:** Improve logistics and supply chain infrastructure to ensure efficient transportation and distribution of craft products.

E. Export Promotion:

- **International Markets:** Develop strategies to enter and establish a presence in international markets. This can include collaborations with global retailers and online marketplaces.
- **Trade Agreements:** Leverage trade agreements and partnerships to promote exports and gain access to new markets

F. Cultural Preservation and Promotion:

- **Documentation and Archiving:** Document and archive traditional techniques, designs, and stories to preserve cultural heritage.
- **Cultural Tourism:** Promote craft tourism by organizing tours and workshops for visitors to experience traditional crafts firsthand.

G. Artisan Welfare Programs:

- **Healthcare and Support:** Implement welfare programs that provide healthcare, financial support, and social security for artisans.
- **Income Stability:** Create systems to provide stable income through fair trade practices and direct-to-consumer sales models.

H. Indigenous Craft-based STEMM (Science, Technology, Engineering, Mathematics and Medicine) Toys for Augmenting Creativity and Critical Thinking

- Design and development of innovative educational toys by blending traditional Indian craftsmanship with contemporary scientific education.

I. Updating of primary education system by inculcating crafts-based education

- Direct exposure to students to explore more about the traditional knowledge of crafts

Appendix 1:

A consolidated framework of recommendations



Figure 31: Consolidated framework prepared for the recommendations to rejuvenate the craft industry of Tripura (Source: Project files)

Alternative Uses of Bamboo: Bamboo Fibres and Pulp Extraction

BAMBOO FIBERS AND PULP EXTRACTION

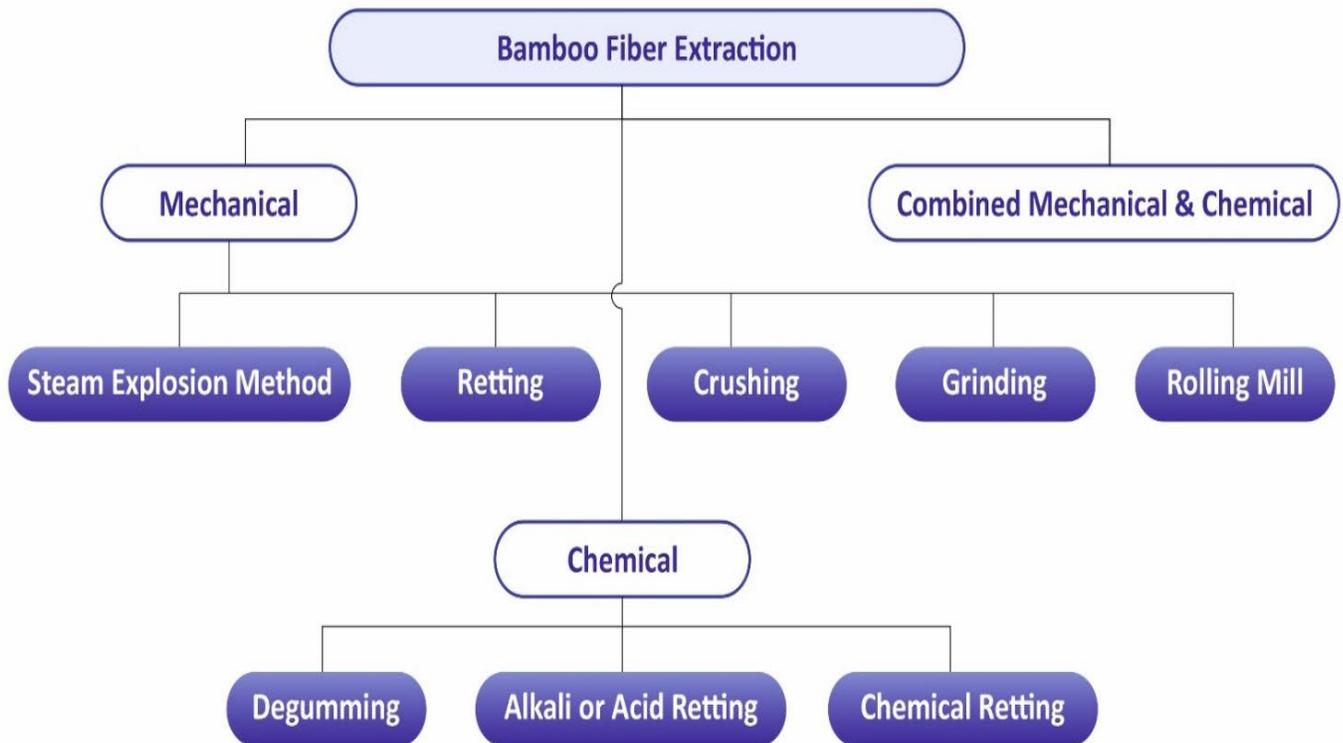


Figure 32: Prevalent Methods of Bamboo Fiber Extraction (Modified by Author)

(Source: Zakikhani, P., Zahari, R., Sultan, M., & Majid, D. (2014). Extraction and preparation of bamboo fibre-reinforced composites. *Materials & Design* (1980-2015), 63, 820–828. <https://doi.org/10.1016/j.matdes.2014.06.058>)

The extraction of bamboo fibers may prove to be a pivotal process for various applications, due to bamboo's low cost, low density, rapid growth, and high mechanical strength. Bamboo fiber extraction can be classified into mechanical methods, chemical methods, and a combination of both, each suitable for different applications and influencing the quality and characteristics of the final bamboo fibers.

Adopting such methods represents a significant opportunity for sustainable development within rural clusters of Tripura, where bamboo is abundant and deeply intertwined with local culture and economics. Given the region's rich bamboo resources, the application of efficient and eco-friendly bamboo fiber extraction methods could play a crucial role in rejuvenating and advancing the handicraft clusters across Tripura. For Tripura, the adoption of these bamboo fiber extraction techniques could

be strategically implemented as part of a broader initiative to rejuvenate its handicraft clusters. Training programs can be developed to teach these techniques to local artisans, incorporating both traditional knowledge and new technologies to create a sustainable craft ecosystem. Furthermore, establishing small-scale, cooperative-based extraction facilities could help standardize production quality and increase the scale of bamboo handicrafts available for both local and export markets.

Bamboo pulping and papermaking are significant due to their environmental benefits and the efficient use of bamboo as a sustainable raw material. Bamboo fiber is advantageous for papermaking because of its intermediate characteristics between coniferous and hardwood fibers. Innovations in bamboo pulping include deep delignification and multi-stage chlorine-free bleaching, enhancing the strength and yield of the pulp while reducing environmental impact. These advancements allow bamboo to be used not just for traditional papermaking but also for producing dissolving pulp for textiles, offering a sustainable alternative to more polluting processes.

Appendix 3:

Suggestive reference e-commerce platform for craft products

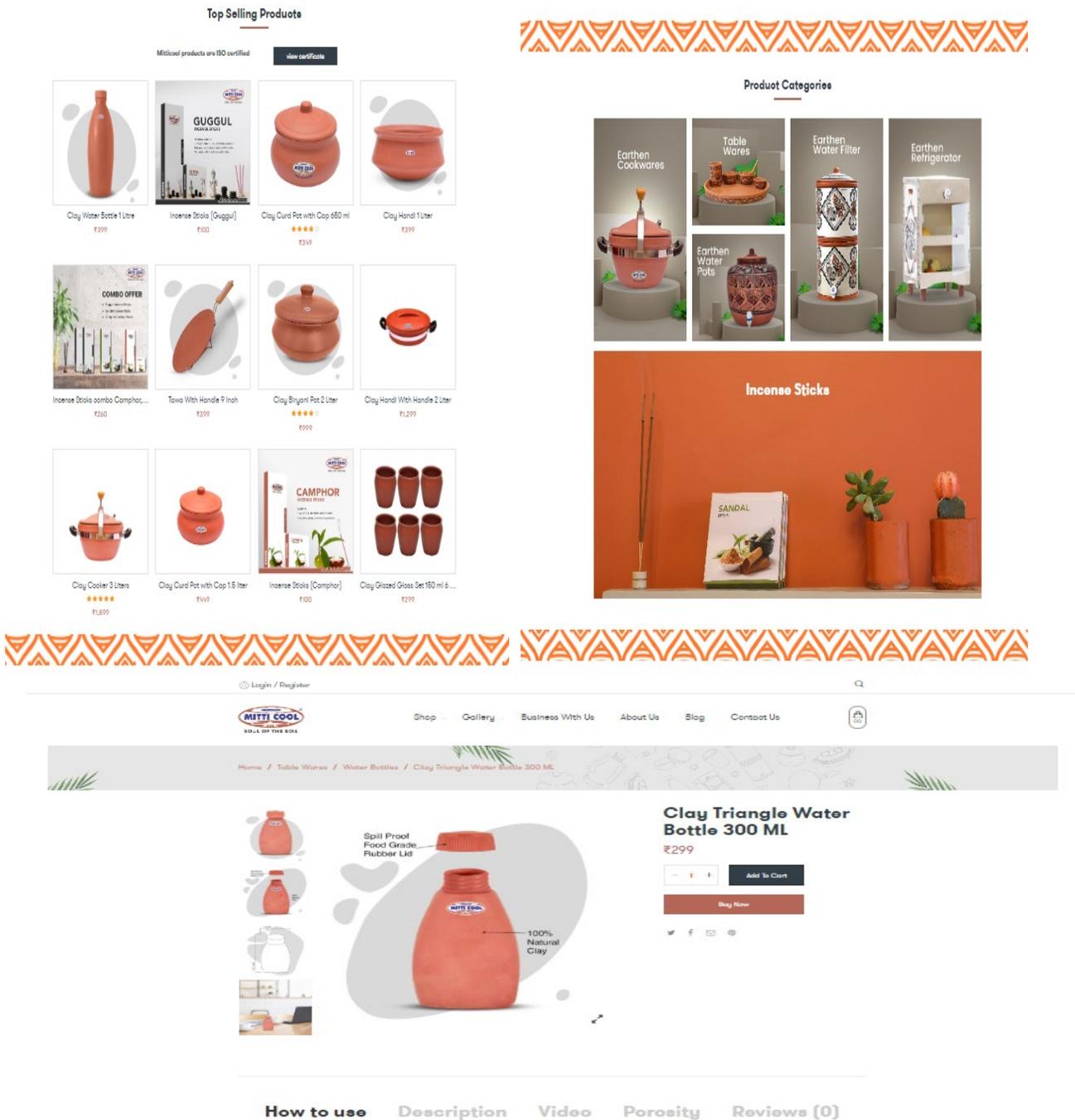


Figure 33: Reference e-commerce platform for marketing and sales in national/ international markets (Source: Mitti cool pottery)

Suggestive Product Range Development

S.no.	Product	Material Used	Reference images
1.	Bags	Silk, Cotton, Bamboo, Cane, Metal	
2.	Home items (Storage and Tray)	Cloth, Bamboo, Cane, Wood	
3.	Souvenirs and other small items	Cloth, Wood, Metal, Threads	
4.	Home décor and Furnitures	Cloth, Cane, Bamboo, Wood, Metal, Glass, Foam	
5.	Home Decor and utility products from pottery	Clay, paints, metal	
6.	Home decor by carving bamboo roots	Bamboo roots, varnishes	

7.	Coin jewellery	Old coins, metal string, polish	
8.	Bamboo and cane jewellery	Bamboo, cane, metal, varnish	
9.	Sheetal Patti in utility products	Bamboo, Cane, Weaving grass	



Figure 34: Mood board prepared for the bamboo crafts of Tripura (Source: Project files and secondary resources-Web)



Figure 36: Mood board prepared for the Bamboo root carving of Tripura (Source: Project files and secondary resources-Web)

The Interview and Survey Questionnaire

1. Artisan and Cluster Information

- a) Artisan's Name:
- b) Cluster Location:
- c) Date of Interview:
- d) Interviewer's Name:

2. Handicraft Details

- a. What is the main type of handicraft produced in your cluster?
- b. Can you describe the products that are made here?
- c. How long have you been involved in this type of handicraft?
- d. Who taught you this craft?
- e. Can you provide a brief history of this craft and its cultural significance in Tripura?
- f. What are the traditional materials and techniques used in this craft?

3. Production and Technology

- a. What technology and tools are used in the production process?
- b. Have there been any recent technological interventions in your craft? If yes, describe them.
- c. What kind of technological support or innovation do you think could help improve your craft?
- d. What specific skills are essential for this craft?
- e. What are the primary materials used in this craft?
- f. Where do you source these materials from?
- g. What tools are essential for the crafting process?
- h. Can you describe the step-by-step process of creating a typical item?
- i. How long does it take to complete one item from start to finish?

4. Challenges and Solutions

- a. What are the most significant challenges you face in your craftwork?
- b. Are there any financial issues affecting your work? If so, what are they?
- c. How do market conditions affect your work?
- d. What changes would you suggest to improve the condition of handicraft work in your area?

5. Sales and Marketing

- a. How do you currently market and sell your products?
- b. Do you participate in trade fairs or exhibitions?
- c. Who are your main customers (locals, tourists, international buyers)?

6. Financial Support and Welfare

- a. Are you aware of any government schemes for artisans? Have you benefited from any?
- b. How do you determine the pricing of your products?
- c. Is this craft your primary source of income?

7. Future of Handicraft

- a. What are your aspirations for the future regarding your craft?
- b. Do you think the next generation in your family or community will continue this craft? Why or why not?
- c. What efforts are being made to preserve and revive this traditional craft?

B. Additional Comments

- a. Is there anything else you would like to share about your craft, community, or conditions of work?
- b. Have you made any changes or innovations in your craft to meet modern market demands?

BIBLIOGRAPHY

- Datta, D. B., & Bhattacharyya, S. (2016). An Analysis on Problems and Prospects of the Indian Handicraft Sector. *Asian Journal of Management*, 7(1), 5. <https://doi.org/10.5958/2321-5763.2016.00002.0>
- Debbarma, S., & Murugesan, P. (n.d.). A Study on the Status of Rural Handicraft Artisans in Mandwi R.D Block, West Tripura District, Tripura. <http://ymerdigital.com>
- Ghose, A., & Ali, S. M. A. (2023a). Protection and preservation of traditional cultural expressions & traditional knowledge in handicraft trade: advocating the need for a global cultural policy framework. *Revista de Direito Internacional*, 20(2). <https://doi.org/10.5102/rdi.v20i2.9109>
- Ghose, A., & Ali, S. M. A. (2023b). Protection and preservation of traditional cultural expressions & traditional knowledge in handicraft trade: advocating the need for a global cultural policy framework. *Revista de Direito Internacional*, 20(2). <https://doi.org/10.5102/rdi.v20i2.9109>
- Grobar, L. M. (2019). Policies to promote employment and preserve cultural heritage in the handicraft sector. *International Journal of Cultural Policy*, 25(4), 515–527. <https://doi.org/10.1080/10286632.2017.1330887>
- Jadhav, M.S. (2014). Indian Handicrafts: Growing or Depleting? *IOSR Journal of Business and Management (IOSR-JBM)* e-ISSN: 2278-487X, p-ISSN: 2319-7668 PP 07-13
- Majeed, I. (2018a). Indian Handicraft Industry and Globalization: An Analysis of Issues and Challenges. *American International Journal of Research in Humanities, Arts and Social Sciences AIJRHASS*, 19–127. <http://www.iasir.net>
- Majeed, I. (2018b). Indian Handicraft Industry and Globalization: An Analysis of Issues and Challenges. *American International Journal of Research in Humanities, Arts and Social Sciences AIJRHASS*, 19–127. <http://www.iasir.net>
- Ranjan, M. P., Ranjan, A. (2007). *Handmade in India: Crafts of India*. India: Council of Handicraft Development Corporations.
- Shankar Yadav, U., Tripathi, R., & Tripathi, N. Y. M. A. (2022). Global handicraft index: a pioneering approach and developing strategies for promotion completion and Welfare of Artisan in the Digital World. *Preschool and Primary Education*, 1(1), 59–80. <https://doi.org/10.29228/imcra.18>
- Yadav, U. S., Tripathi, R., Yadav, G. P., & Tripathi, M. A. (2022). Proposal of a Global Handicraft Index for Sustainable Development: A Visionary Approach for Small Industry and Developing Strategies for Handicraft (Rural Industry). *European Journal of Sustainable Development Research*, 6(2), em0185. <https://doi.org/10.21601/ejosdr/11909>

The Project Team

The team from IIT Roorkee that worked on this project comes from a diverse and multidisciplinary background – design, craft development, architecture, engineering, urban as well as interior design. Moreover, the team has already worked on various projects where the prime focus was strengthening the identity of the traditional creative industry and rejuvenating their craft and skills.

Dr. Bibhuti Ranjan Bhattacharjya, Assistant Professor, IIT Roorkee

Teaches Product Design in the Department of Design, IIT Roorkee. His academic research revolves around frugal innovation and frugality, sustainable rural development and science communication.

Dr. Smriti Saraswat, Assistant Professor, IIT Roorkee

Work experience of fifteen years, with research, teaching and consultancy, focusing on Architectural Heritage; Indian Knowledge Systems; Craft and Technology; Material Culture; Creative and Cultural Industries; Skill Development

Syed Ifrah Asfar / Renuka Rajawat

Ph.D. Scholar, IIT Roorkee

Abhinav Singh

M. Design, IIT Roorkee

Promit Prodhan, Shivansh N Gaur, Shobhana Nagarkar, Aaditi G Parab

B. Design, IIT Roorkee
