

Kumartuli In Transition: Socioeconomic Challenges, Infrastructural Gaps, And Environmental Impacts in Kolkata's Heritage Artisan Hub

Dr. Ranita Ghosh¹, Dipanwita Maiti²

¹Faculty, Department of Geography, Vivekananda College for Women

²Former Student, Department of Geography, Vivekananda College for Women

Abstract:

Kumartuli, the historic potters' quarter of North Kolkata, is internationally renowned for its traditional idol-making, especially for Durga Puja. Despite its cultural prominence, the locality faces acute socioeconomic, infrastructural, and environmental challenges. This study examines the interlinked issues of declining artisan livelihoods, inadequate civic amenities, and ecological degradation caused by evolving production practices. Primary surveys, field observations, and literature reviews reveal that generational artisans predominantly from marginalized communities struggle with seasonal income, gender disparities, limited institutional support, and unsafe working conditions. Rapid urbanization and market pressures have accelerated the shift from sustainable, natural materials such as Ganga clay and organic dyes to non-biodegradable and toxic alternatives like Plaster of Paris, synthetic paints, and plastic decorations. These changes, combined with inefficient waste management, poor drainage, and immersion practices, have significantly polluted the Hooghly River and degraded surrounding ecosystems. Stakeholder perceptions indicate high awareness of environmental risks but low adoption of eco-friendly practices due to high costs, low consumer demand, and inadequate policy enforcement. The study underscores the urgent need for integrated interventions that combine heritage conservation, environmental management, and socioeconomic empowerment. Recommendations include promoting affordable sustainable materials, improving civic infrastructure, enforcing environmental regulations, and fostering community-led initiatives to ensure Kumartuli's survival as both a cultural landmark and a model of sustainable urban heritage.

Keywords: Pollution, Eco-friendly Infrastructure, Heritage, Production cost, Sustainable materials.

INTRODUCTION

Kumartuli, the centuries-old artisans' quarter on the banks of the Hooghly River in North Kolkata, is well-known as the cultural hub of Bengal's idol-making culture. In recent decades, the pressures of urbanization, commercialization, and declining traditional patronage have intensified stress on Kumartuli's unique artisan economy. Infrastructurally, Kumartuli is marked by narrow lanes, poor drainage systems, inadequate sanitation, and decaying housing, all of which are incompatible with modern urban development or cultural tourism. Idol-making pollutes the Hooghly River with chemicals and waste, while poor drainage and flooding worsen environmental and health impacts on artisans

REVIEW OF LITERATURE

1. **Going green, the Puja way: Hindustan Times. (2016, September 27)** looks at the ecological concerns of Kumartuli's idol-making industry in Durga Puja. The article raises concern over the

employment of toxic paints with lead and chromium, which is hazardous for the environment as well as for health.

2. **Condition of the Workers of the Idol Making Industry: A Case Study of Kolkata Ward No. 9: Banerjee, D. (2017)** discusses the socio-economic status of idol makers in Ward No. 9 of Kolkata, where Kumartuli is situated. It brings to the fore the lives of conventional artisans, a majority of whom have been engaged in idol-making for generations.
3. **Technology of Idol Making: An Ethnographic Study in Kumartuli, Kolkata, West Bengal: Banerjee, D. (2017)** involves the traditional techniques of idol making with clay by the artisans residing in Kumartuli, Kolkata, particularly for Durga Puja. The study describes the lengthy process: from the collection of clay from the rivers, to moulding and embellishment of idols.
4. **Contesting Spaces of Urban Renewal Project: A Study of Kumartuli's Artist Colony: Mukhopadhyay, R. (2019)** analyzes how urban renewal projects have affected the traditional artist colony of Kumartuli in Kolkata. Mukhopadhyay argues that these redevelopment efforts leave behind the real needs of these artisans for better real estate and infrastructural infrastructure.
5. **Idol Makers of Kumartuli, Kolkata: Socio-cultural Issues and Change—An Ethnographic Study: Das, A. (2020)** scrutinizes the lives of Kumartuli idol makers in Kolkata, India with reference to their social, cultural and economic conditions. It underlines how their traditional practices have been dislocated by globalization, commercialization, and urban redevelopment and how this has endangered their livelihood.
6. **Environmental Management: Issues and Concerns in Developing Countries: Iyer, R. R. (2020)** analyzes environmental management issues in developing nations with emphasis on the intricate interplay between economic development and ecological stability. The book covers urban environmental concerns like pollution, waste management, and unchecked industrial activities—concerns pertinent to cities like Kumartuli in Kolkata.
7. **Durga Puja: Kolkata's Kumartuli potters struggle for survival amid COVID-19: Deccan Herald. (2020, August 28)** sheds light on the struggles of Kumartuli's idol makers during the COVID-19 pandemic. With public gatherings restricted and Durga Puja celebrations scaled down, the demand for idols drastically declined, leading to severe financial hardship for the artisans.
8. **Place and Practices of the Idol-making Industry of Kolkata: A Visual Ethnography of Kumartuli: Chakrabarti, D. (2020)** offers a visual ethnography of Kolkata's iconic idol-making area, Kumartuli, on the changing spatial and social form of the neighborhood. The research captures the ways in which artisan spaces are changing from conventional residential – based workshops to more commercially oriented arrangements with increasing demand and pressure of urbanization.
9. **Dynamics of Urban Growth and Environmental Challenges: A Case of Kolkata, India: Dey, F. (2021)** examines how unchecked urban growth in Kolkata, especially in conventional areas such as Kumartuli, has resulted in severe environmental and socio-economic issues. Dey describes how unregulated construction and urbanization have altered the spatiality of the city, often at the cost of ecologically sensitive and culturally significant habitats.
10. **Re-imagining Kumartuli—The Artisan and the City: Mazumdar, S. (2021)** examines the evolving identity of Kumartuli and its artisans as Kolkata is increasingly urbanized. It chronicles how the space previously famous for artistic liberty is increasingly falling under the domain of city planning and real estate ventures.
11. **Potters Without a Wheel: Ethnography of the Mritshilpis in Kolkata: Bhattacharya, S. (2022)** This book is about the lives of traditional idol makers in Kumartuli, Kolkata (Kolkata), also known as Mritshilpis. This craft of making clay idols for the major festivals such as Durga Puja has been inherited by these artisans. The book also illustrates how the government is not supporting their profession, there are fewer orders, rising costs, and machine-made idols are their competition.
12. **Wetlands Ecology: Chakraborty, S. K., Sanyal, P., & Ray, R. (2022)** It primarily deals with the East Kolkata Wetlands but also has a strong bearing on Kumartuli's ecology. The idol-making activity,

particularly that of Durga Puja, impacts the wetlands as poisonous chemicals such as lead are used in the idols, along with non-biodegradable substances. When these substances are immersed in rivers and lakes, they prove injurious to aquatic life and contaminate water bodies.

13. **Transitioning Infrastructures and Socio-Cultural Practices at the Idol-Making Cluster of Kolkata's Kumartuli: Chakrabarti, D. (2022)** focuses specifically on Kumartuli's idol-making industry. The author studies how changes in the city's roads, buildings, and environment are affecting the lives of idol-makers. Kumartuli, once a peaceful and creative neighborhood, is now struggling with traffic, pollution, and commercial pressures.
14. **Letters to the Editor: Climate change hurdle for Kumartuli artisans ahead of Durga Puja: The Telegraph India. (2022, August 29)** focuses on climate change effects on Kumartuli artisans getting ready for Durga Puja. Unstable weather conditions, such as too much heat and rain, have rendered conventional drying techniques for idols ineffective.
15. **The Hidden Heroes of Kumartuli: Women Idol Makers and Their Struggles: The Dialogue Box. (2023, October 18)** brings to the fore the underreported efforts and challenges of women idol makers in Kumartuli, Kolkata. Historically a male-dominated arena, Kumartuli now has an increasing number of women taking up the craft despite gender discrimination, lack of recognition, and limited access to resources.
16. **Examining the Impacts of UNESCO's Recognition of Durga Puja as Intangible Cultural Heritage on the Artistry of Kumartuli, Kolkata: Roy, A., & Ali, S. A. (2024)** explore how the UNESCO recognition of Durga Puja as an Intangible Cultural Heritage has influenced the artistic community of Kumartuli, Kolkata. The study highlights the dual impacts of this international recognition – while it has elevated the global visibility of Kumartuli's idol-making craft, it has also led to increased commercialization and pressure on artisans to produce idols in larger quantities and often with non-traditional materials.
17. **Informal Settlement Characterization and Socio-Economic Vulnerability Assessment in Kolkata Metropolitan City, India: Banerjee, S., Diksha, A., Prasad, A., & Kumar, A. (2024)** examines informal settlements in the Kolkata Metropolitan Area (KMA) in relation to their physical form, socio-economic conditions, and environmental exposures.
18. **It's raining problems for idol makers: Times of India. (2024, August 6)** Kumartuli artisans, among many others, face the inevitable and unpredictable weather of their locales, which mainly falls heavy during the rainy season where everything gets slowed-down. Because of this dampness, clay idols take longer to dry; artisans resort to artificial means like blow torches and fans to hasten drying.

SELECTION OF STUDY AREA

The chosen study area of this study is Kumartuli, a cultural and historical artisan neighborhood under parts of Ward No. 9 of Borough No. 1 of the Kolkata Municipal Corporation (KMC). Kumartuli is a place in North Kolkata that comes between Ahiritola on the north and Sovabazar on the south, with the Hooghly River on the west and Rabindra Sarani on the east (22.6°N latitude and 88.36°E longitude) (Fig:1).

OBJECTIVES

- To examine the socioeconomic status of Kumartuli artisan community.
- To evaluate prevailing infrastructural conditions in the region.
- To determine and assess the significant environmental issues resulting from the idol-making process.
- To investigate the intervention of government agencies, NGOs, and community organizations.
- To suggest sustainable and inclusive planning strategies that can help preserve Kumartuli's cultural identity while improving its living conditions and environmental health.

METHODOLOGY AND DATABASE

Pre-field phase:

- Collection of secondary level information and data from census, reports, maps and imageries.
- Preparation of questionnaires.

On-field work:

- Collection of various primary level information and data through questionnaire survey of the artisans.
- Secondary information collection from various administrative offices such as KMDA, Census office, KEIP, ward office of ward no.-9, KMC and Borough office of borough no.-I.

Post-field work:

Initialization of the design methodologies using Map Info, a GIS software, statistical approaches, mapping techniques and cartographic methods.

- Computation, analysis and processing of data.
- Further refinement of collected information.
- Final evaluation and editing as required and Final creation of content.

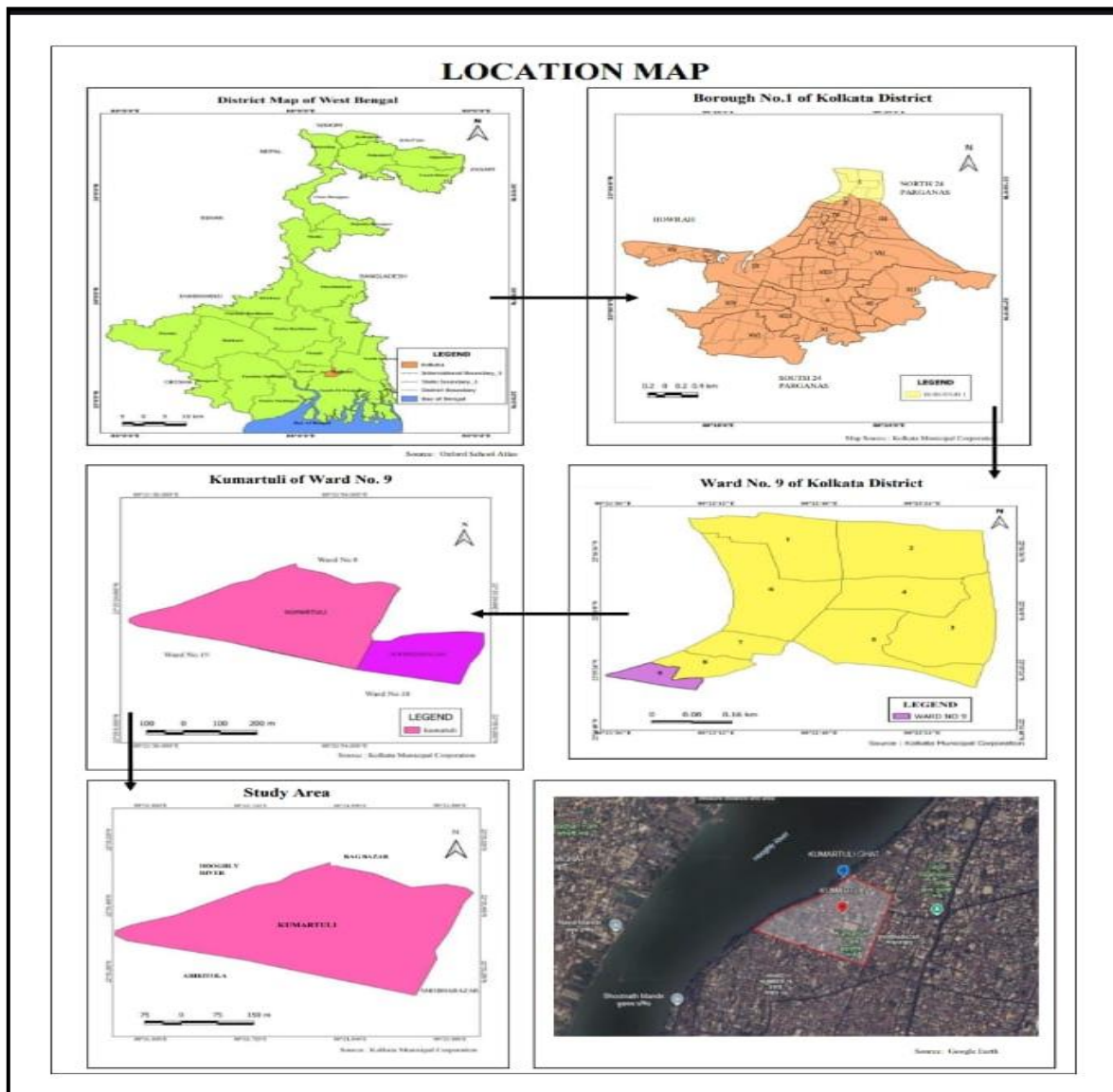


Fig No. 1
Source: NATMO and Google Map

SOCIO-ECONOMIC ASPECT AND PROBLEMS ANALYSIS

As Kumartuli confronts the pressures of urbanization, environmental change, and generational transitions, a nuanced understanding of its socioeconomic conditions becomes crucial for policy design and cultural preservation.

➤ **Demographic Profile of Kumartuli’s Workforce**

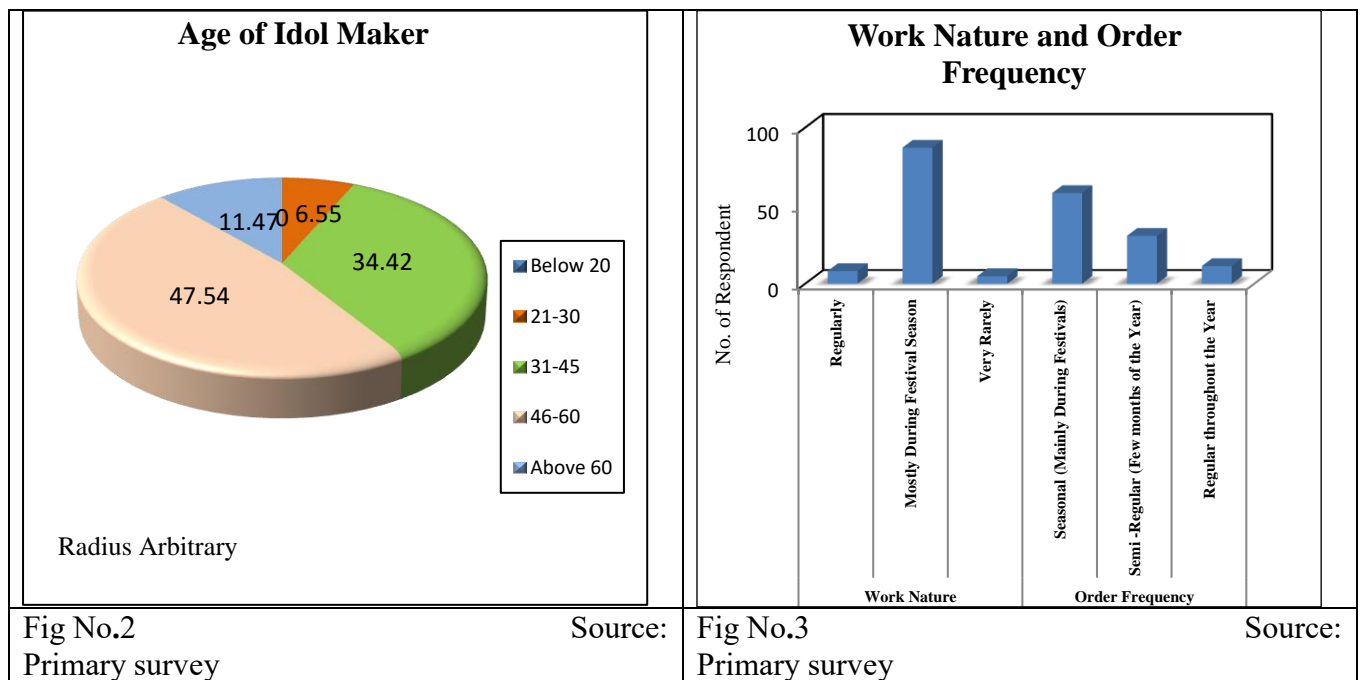
Kumartuli’s artisan population is aging, with few young people joining. The gender composition of the community is equally imbalanced. (Fig No.2)

➤ **Occupational Structure and Work Nature**

Work in Kumartuli is its seasonal nature. Many respondents have worked in Kumartuli for over a decade, inheriting the craft from their family. (Fig No.3)

➤ **Educational Background and Social Identity**

Most artisans have secondary education. They mainly belong to OBCs, followed by SCs, minorities, and a few from the General category.



➤ **Gender Disparity and Women’s Role in Production**

Women help in various idol-making stages like clay work, drying, painting, and decorating but rarely receive recognition. (Fig No.4)

➤ **Income, Livelihood Strategies, and Financial Insecurity**

Many artisans are second or third-generation idol-makers, showing the craft is passed down through families.

➤ **Housing Conditions and Infrastructure**

Kumartuli suffers from poor infrastructure—bad drainage, waste issues, unsafe power, and cramped spaces—leading to frequent floods, fire risks, and low quality of life. (Fig No.5)

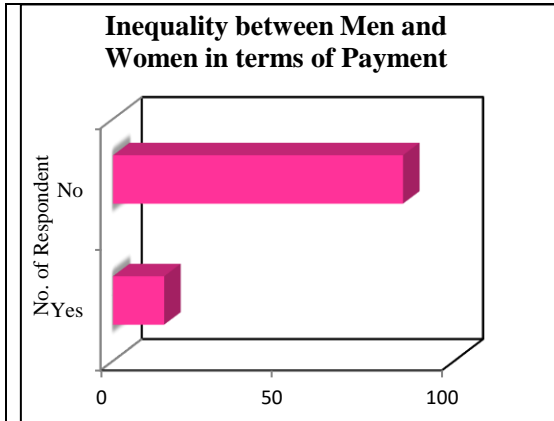


Fig No.4
Primary survey

Source:

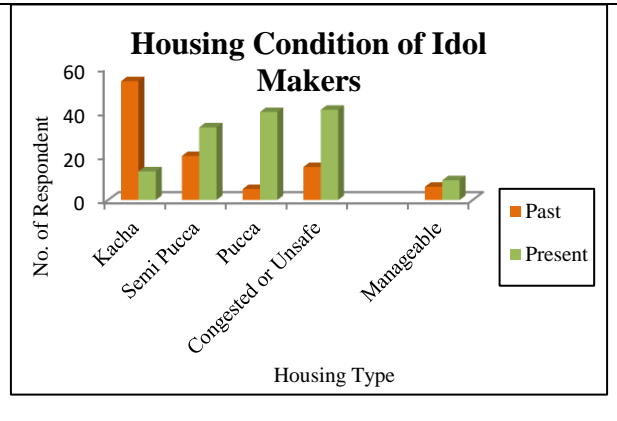


Fig No.5
Primary survey

Source:

Kumartuli is mostly residential (75.47%) with limited studio space (3.77%) often inside homes. Open space is scarce, pushing work into lanes. Once river-dependent, it now relies on road transport. (Fig No.6 and 7)



Fig No.6
Source: Google Map

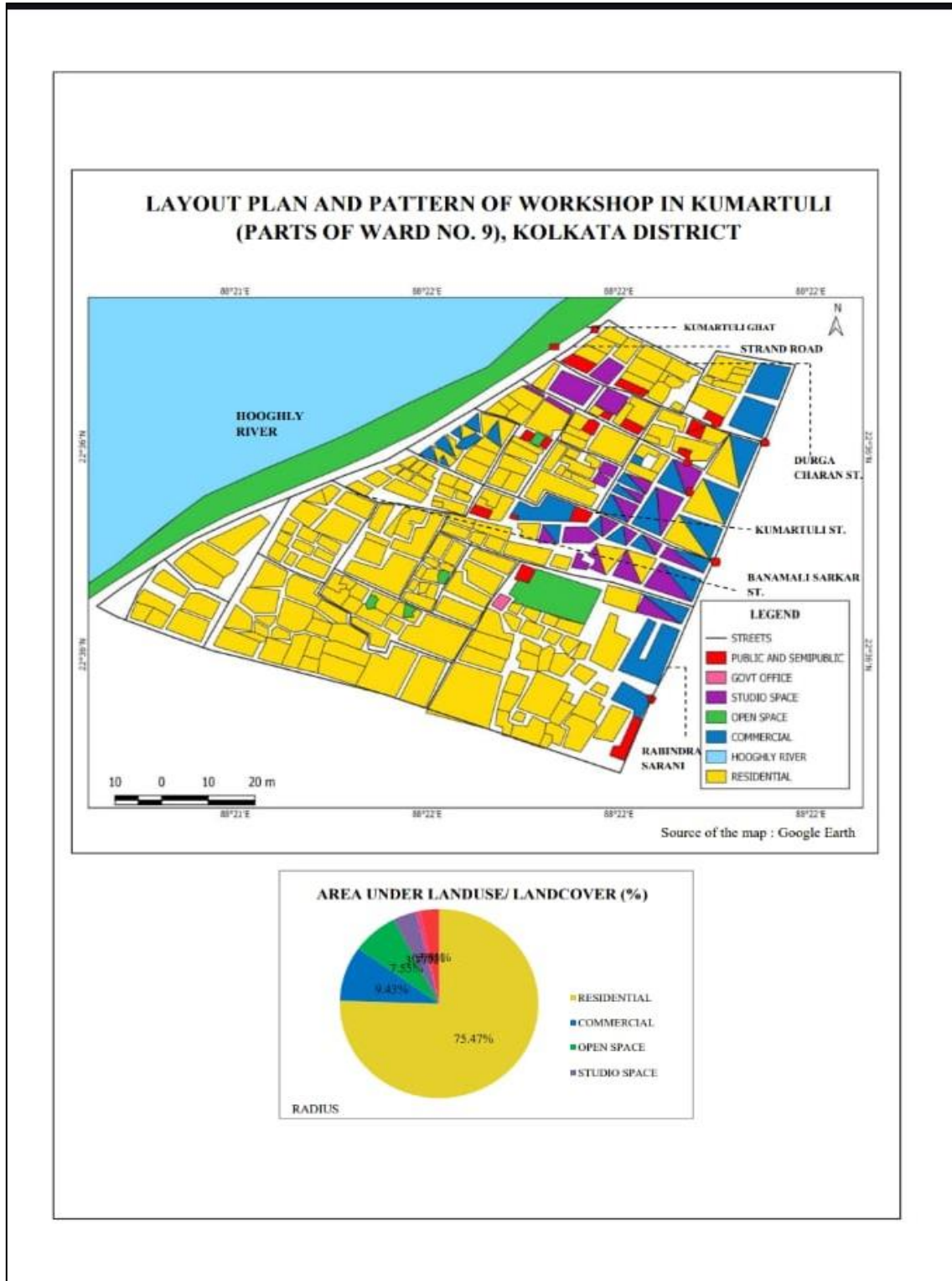


Fig No.7
Source: Google Map and Primary Survey

PRODUCTION PROCESS AND MATERIALS USE

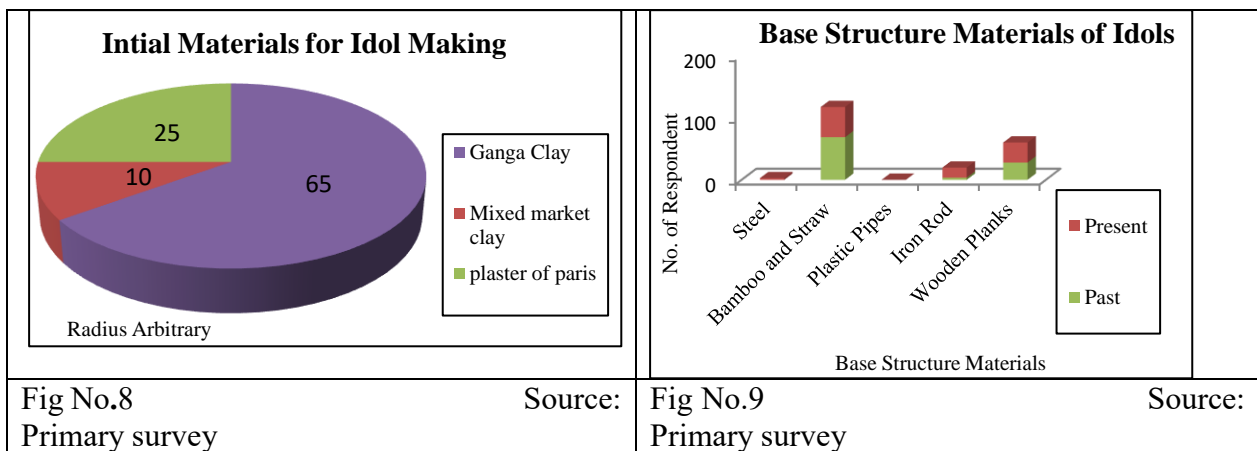
Over the years, the methods and materials used in idol-making have undergone substantial changes.

➤ Traditional vs. Contemporary Practices

90% of Kumartuli artisans now blend traditional and modern methods, but increased use of plastic, PoP, and synthetic paints has raised environmental concerns.

➤ **Framework, Clay Application, and Surface Preparation**

Bamboo and straw remain common, but many workshops use non-biodegradable iron rods and plastic pipes, harming the environment and moving away from sustainable practices. Ganga clay has become scarce due to regulations and urbanization, leading to higher costs and shortages that disrupt production. Around 10% of artisans use mixed market clay, a cheaper alternative, sometimes blended with Ganga clay for ritual value. About 25% use PoP, a cheap but non-biodegradable material causing serious river pollution despite regulations. Finishing work produces dust that risks artisans' respiratory health, especially without protective gear. (Fig No.8 and 9)



➤ **Painting Techniques and Color Choices**

Synthetic paints, favored for durability and brightness, contain toxic heavy metals that pollute rivers. (Fig No.10)

➤ **Decoration Materials and Environmental Impact**

Despite bans, 47% of artisans use thermocol and plastic, 40% use jute and cloth, 10% paper and thread, and 3% eco-friendly wooden crates. (Fig No.11)

➤ **Packaging and Delivery Practices**

Cost effective measures are taken which harm the environment. (Fig No.12)

➤ **Technological Interventions in Production**

There is an evolution of technology but more cheaper materials are in use.

➤ **Market Demands and Production Pressure**

It is another important factor.

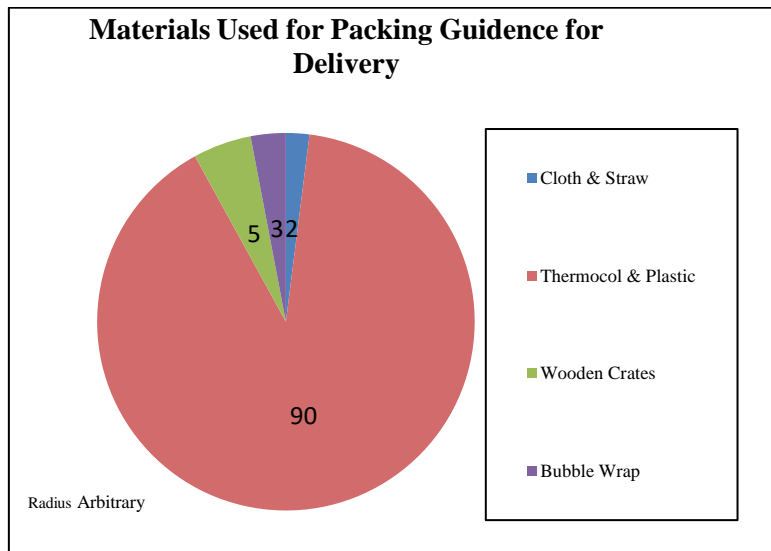
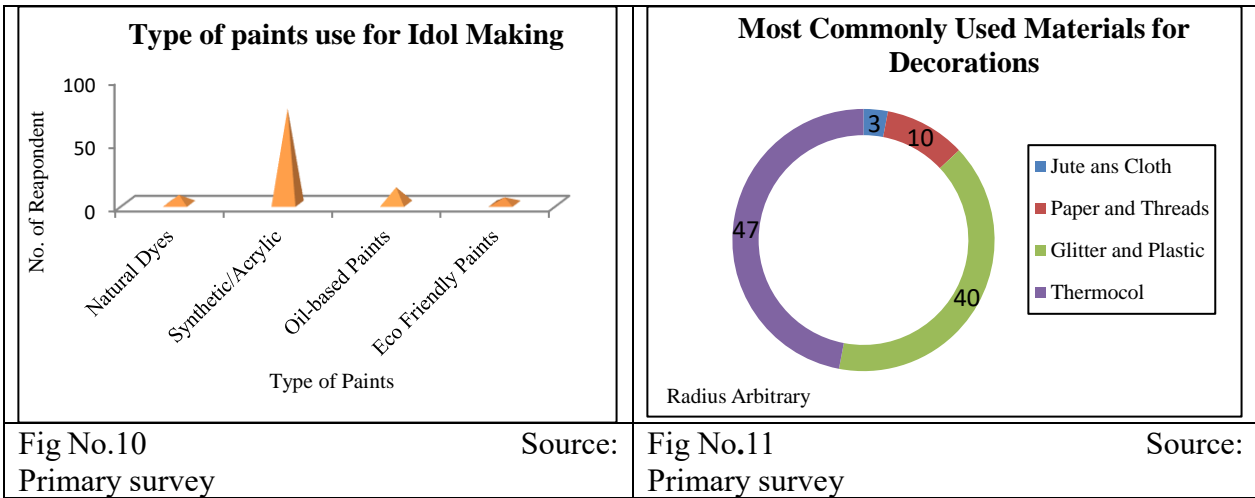


Fig No.12
Source: Primary survey

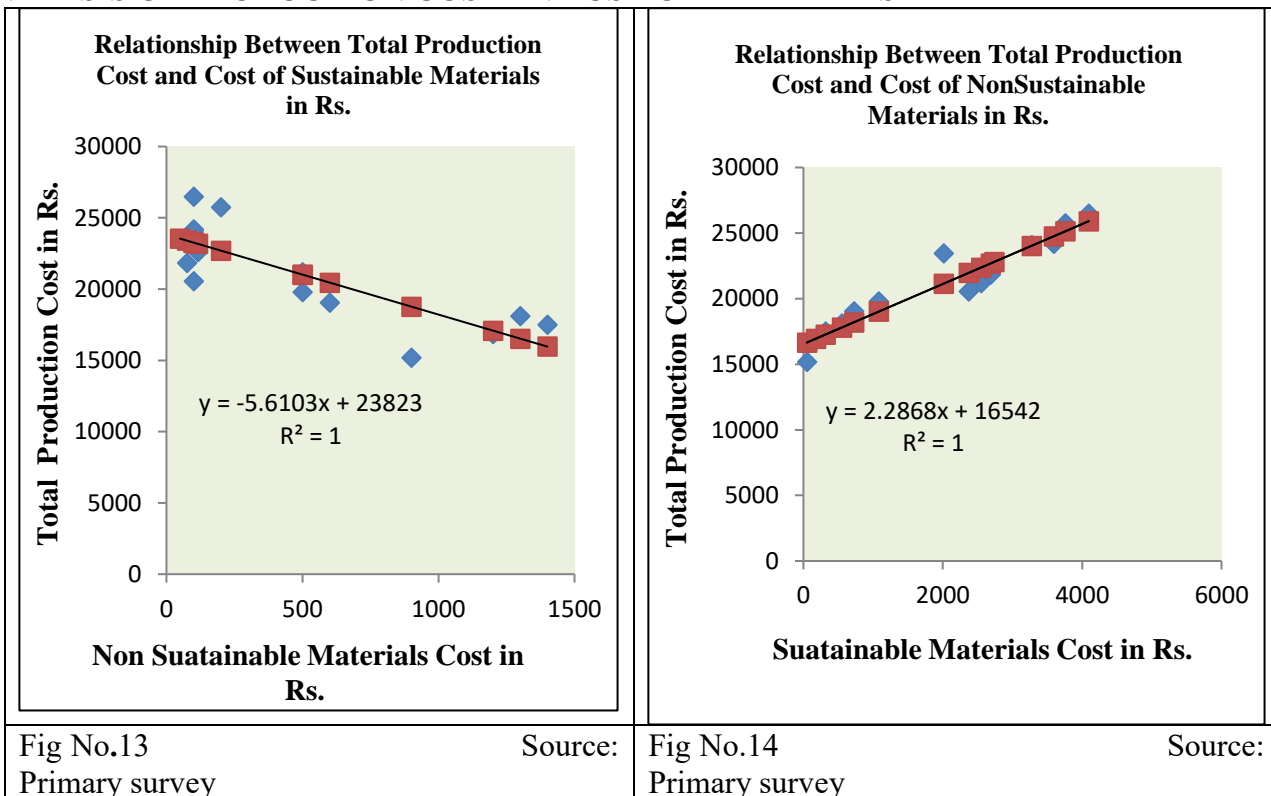
➤ **Reflections from the Artisan Community**

85% reported worsening clay quality, while most lacked eco-awareness; only 2% knew thermocol packaging is banned, revealing major knowledge gaps

Evolution of Idol-Making Techniques		
Aspect	Traditional Approach (Past)	Modern Method(Present)
Clay Source	Hooghly riverbank	Purchased, Mixed market clay
Paints	Natural dyes, mud, charcoal	Acrylics, Oil-based, Chemical
Decorations	Jute, Cloth, Paper	Plastic, Glitter, Thermocol
Tools	Handmade Wooden/ Plaster molds	Fiber glass, Plaster of paris molds, electric tools

Table :1

ANALYSIS OF PRODUCTION COST AND USE OF MATERIALS TYPE



IDENTIFIED PROBLEMS

- **Infrastructural Problems:**
Poor Drainage and Waterlogging:

75% of Kumartuli residents face waterlogging **always** during monsoon, and **18%** face it **occasionally**, highlighting serious drainage issues. (Fig No.15)

Inefficient Solid Waste Management:

87% of Kumartuli artisans dump waste in open areas or near the river, with few opting for burning or informal. (Fig No.16)

Irregular Electricity Supply and Unsafe Wiring:

73% of respondents face power-related issues such as frequent outages and unsafe wiring.

Poor Road Connectivity and Transportation Challenges:

82% of respondents face difficulty transporting large idols due to **narrow roads and lack of loading space** in Kumartuli.

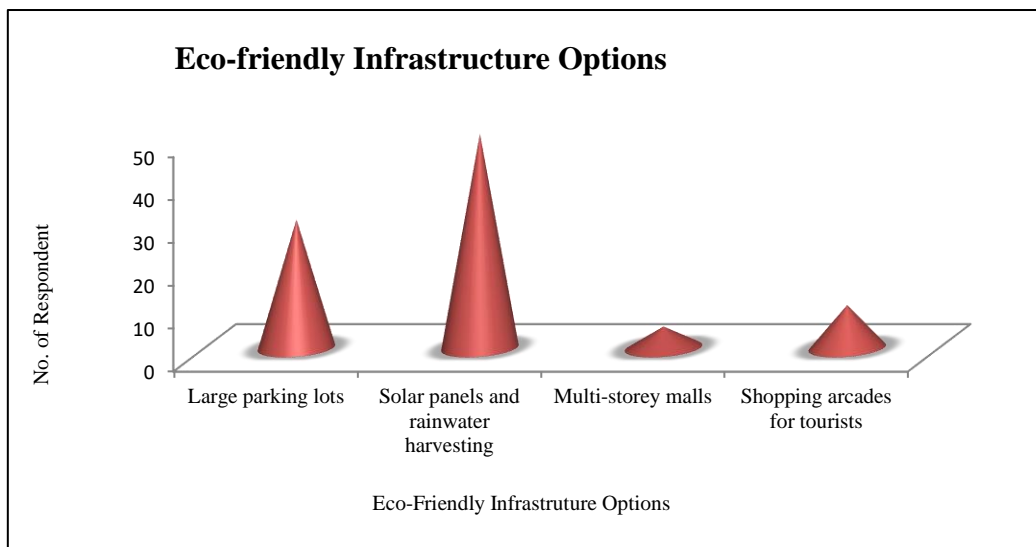
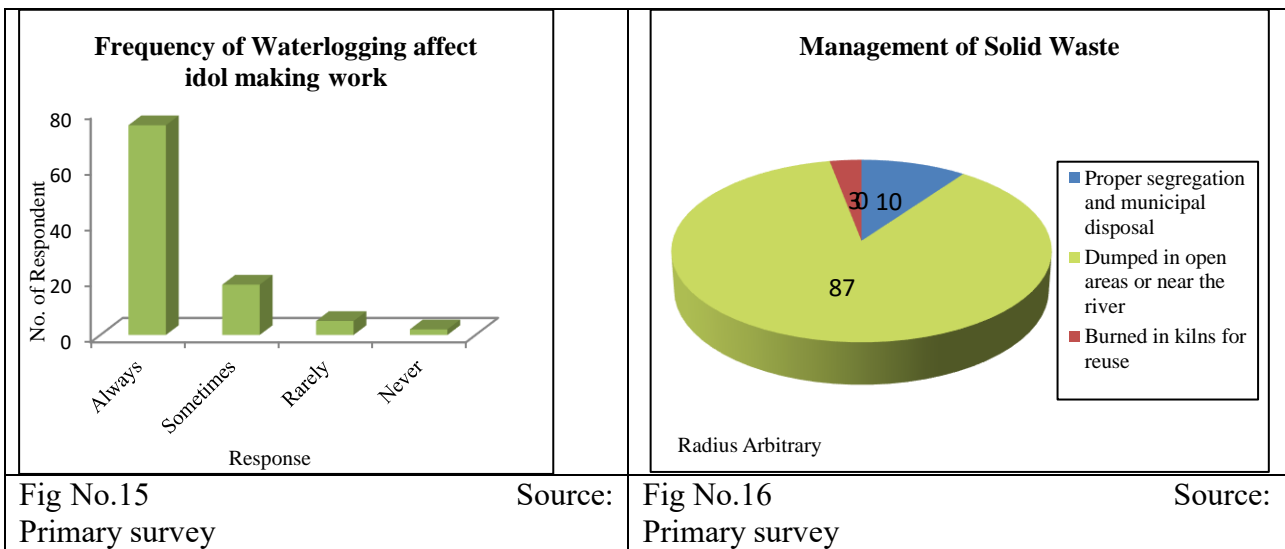


Fig No.17

Source: Primary survey

Inadequate Sanitation and Hygiene Infrastructure:

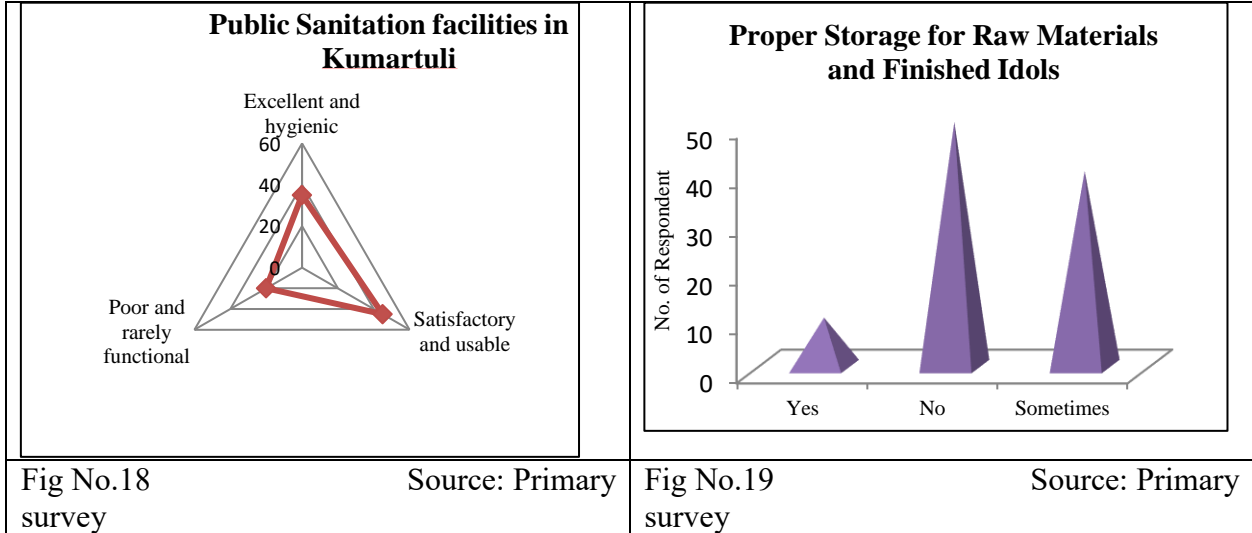
45% find public toilets usable, 35% rate them excellent, and 20% report them as dysfunctional or inaccessible. (Fig No.18)

Lack of Proper Storage and Workspace:

Most workshops in Kumartuli are small and overcrowded. Only 10% of artisans feel they have adequate storage facilities. (Fig No.19)

Absence of Eco-Friendly Infrastructure

50% of respondents support eco-friendly steps like **solar panels, rainwater harvesting, and composting**, but **lack of government support and funding** hinders progress. (Fig No.17)



➤ **Environmental Problems:**

Historical Context of Idol-Making and Environmental Harmony

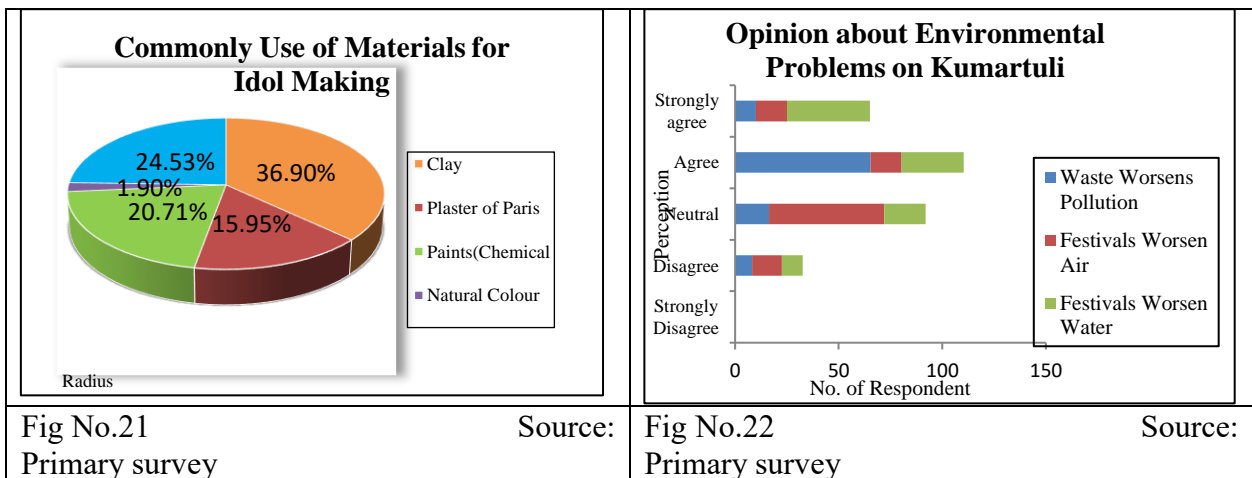
36.9% of artisans use clay, **15.95%** use Plaster of Paris, and **20%+** use chemical paints—indicating a shift toward **synthetic materials** due to demand, ease, and cost. (Fig No.21)

Air Pollution

Over **60%** of surveyed respondents feel **air pollution worsens** during the idol-making season, marking it as a major concern in peak months. (Fig No.22)

Water Pollution

80% of respondents say **Durga Puja** sees the highest idol immersion, resulting in significant **environmental impact**. (Fig No.23)



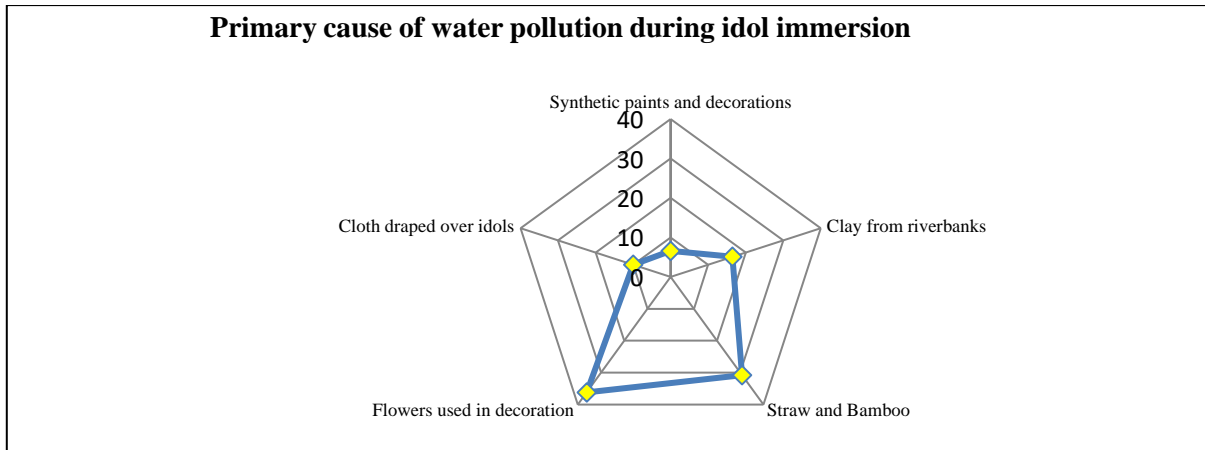


Fig No.23
Source: Primary survey

Soil Degradation

100% of respondents acknowledge that **clay extraction** from riverbanks leads to **erosion** and **ecological harm**.

Ecological Footprint of the Idol Industry

Kumartuli’s **ecological footprint** has grown with increased use of **electric lights, compressors, air blowers, and power tools**, especially during **Durga Puja**, driving up **energy consumption**.

Comparative Environmental Trends: Past vs Present

Only 16.67% support a full ban on non-biodegradable materials, showing openness to change but only if alternatives are practical and affordable. (Fig No.25)

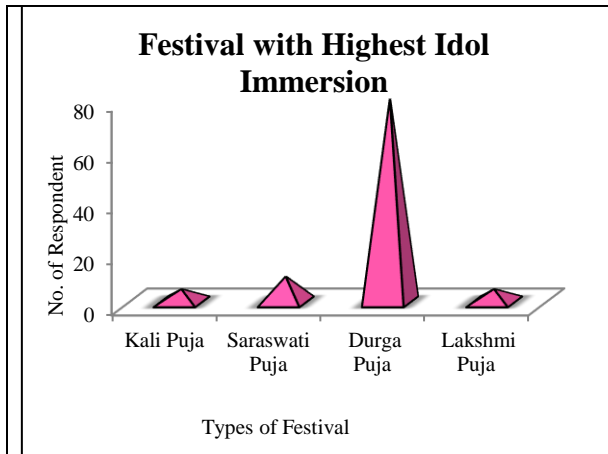


Fig No.24
Primary survey

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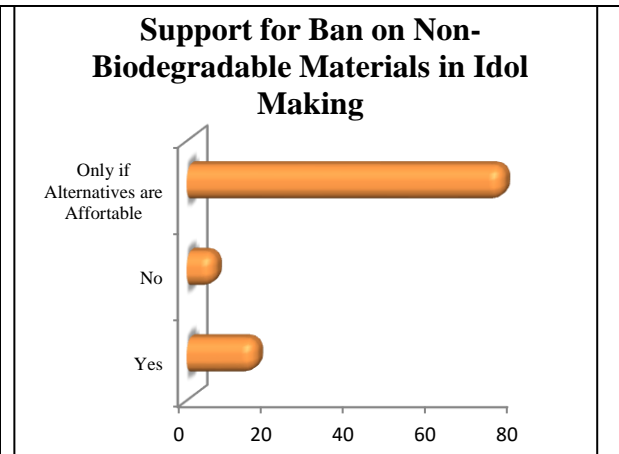


Fig No.25
Primary survey

Source: Primary survey

➤ **Impact on Adjacent Ghat of Hooghly River (Kumartuli Ghat):**

This analysis explores idol immersion’s impacts on Kumartuli Ghat and the Hooghly River using survey data, resident feedback, and qualitative insights.

- Frequency of Idol Immersion Activities (Fig No.26)
- Nature and Composition of Immersion Waste (Fig No.27)
- Change in River Water Quality Over Time
- Public Health Implications

- Perceived Contribution of Idol Immersion to Environmental Degradation
- Clean-Up and Maintenance Efforts: Public Satisfaction (Fig No.28)
- Preferred Strategies for Pollution Reduction

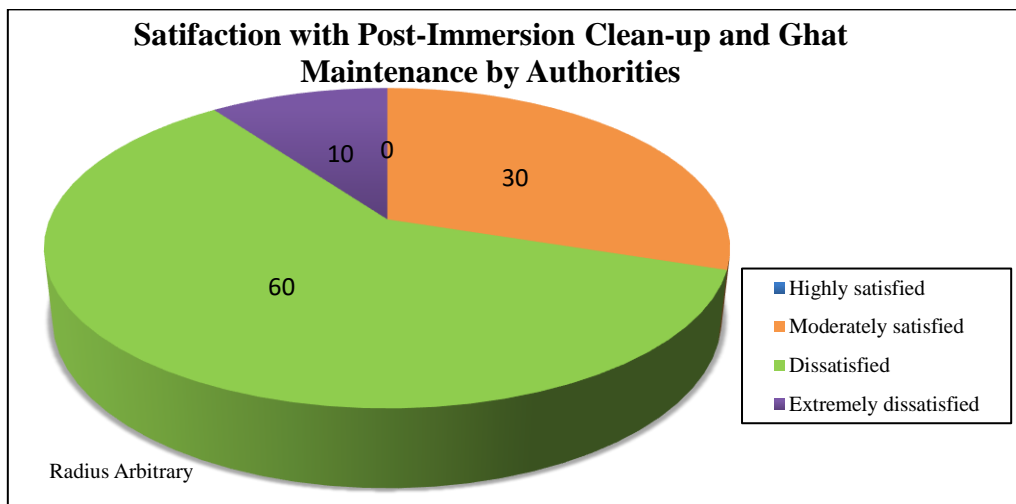
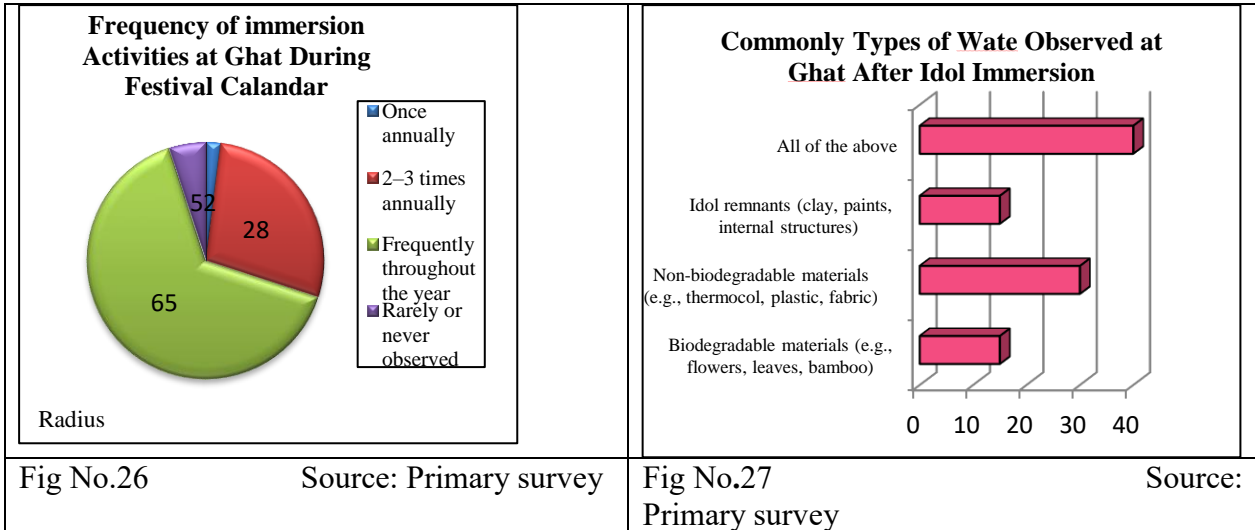


Fig No.28
Source: Primary survey

PERCEPTIONS OF ARTISANS AND STAKEHOLDERS

- The Composition of Stakeholders in Kumartuli
- Artisans' Awareness and Barriers to Change (Fig No.29)
- Clients' and Buyers' Perspective (Fig No.30,31,32)
- Perspectives of Local Residents
- Institutional Challenges and Government Perspectives

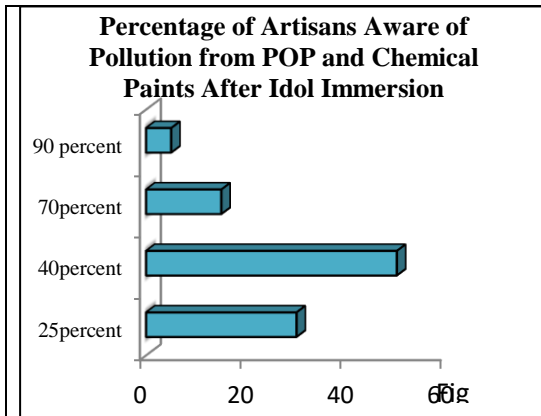


Fig No.29 Source: Primary survey

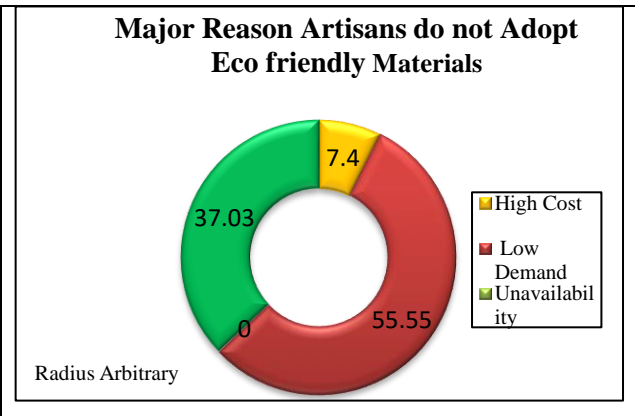


Fig No.30 Source: Primary survey

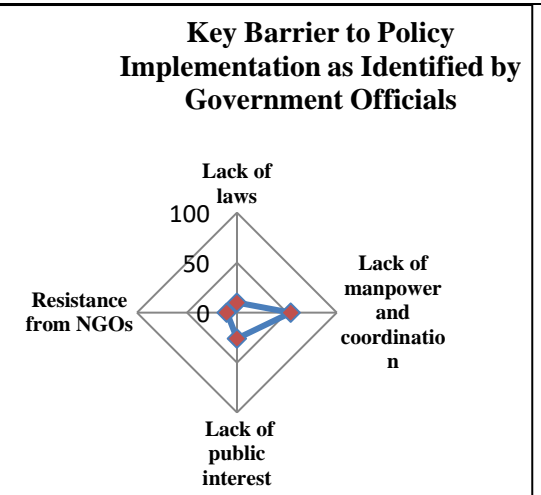


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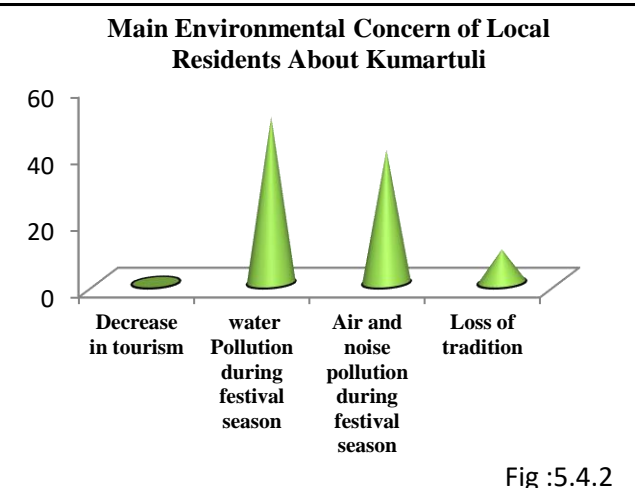


Fig No.32 Source: Primary survey

HERITAGE

- Cultural and Historical Heritage of Kumartuli
- UNESCO Recognition and Its Implications
- Changing Dynamics of Heritage Tourism

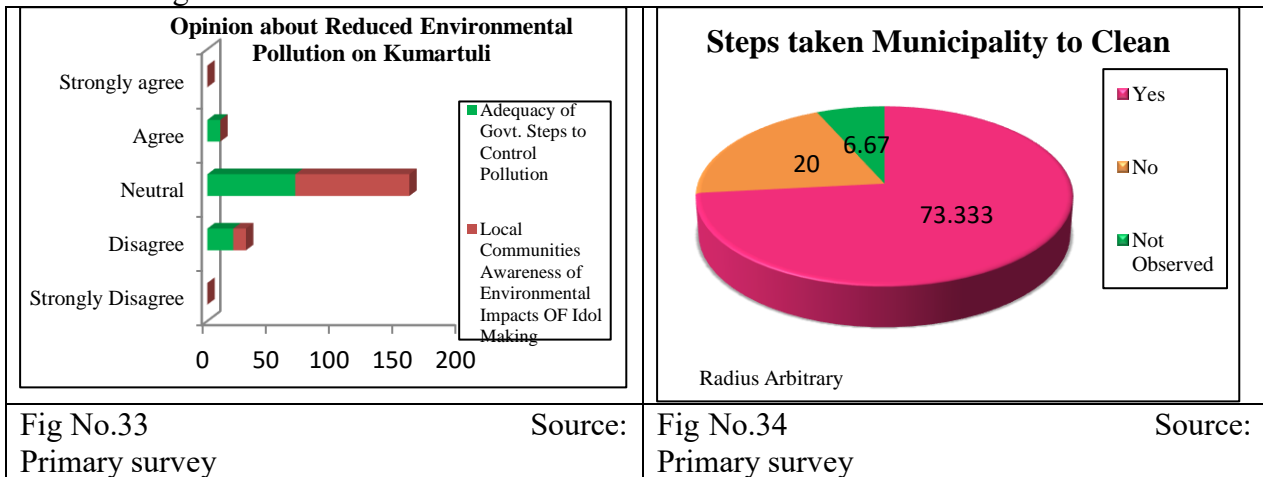
ROLE OF INSTITUTIONS AND POLICY FRAMEWORK

- Role of the West Bengal Pollution Control Board (WBPCB)
- Role of Kolkata Municipal Corporation (KMC)

Government and NGO Initiatives: Perception Vs Reality

- National Legal and Policy Framework
- ☐ The Environment Protection Act, 1986
- ☐ The Water (Prevention and Control of Pollution) Act, 1974
- ☐ The Air (Prevention and Control of Pollution) Act, 1981
- **Key Gaps in Policy and Institutional Framework**
- ☐ No Training Infrastructure
- ☐ Low Institutional Support
- ☐ Poor Communication

Weak Legal Enforcement



MANAGEMENT RELATED SOLUTIONS

- **Establishing a Local Environmental Management Cell (LEMC)**
- **Workshop Zoning and Sustainable Infrastructure Redesign**

Eco-Workshop Incentive Program

- **Environmentally Regulated Material Use**
- **Scientific Waste Management and Treatment Zones**

Mini Material Recovery Facility (MRF)

Paint Sludge Disposal Zone

- **Revitalization of Kumartuli Ghat for Sustainable Immersion**

Eco-Immersion Tanks

Ghat-Based Waste Filtering System

- **Digital Governance and Tracking Mechanisms**

QR-Based Eco-Label System

- **Health and Occupational Safety Management**

Monthly Health Clinics

Ergonomic Studio Design

- **Reimagining Tourism with Environmental Limits**

Green Tourism Routes

Digital Storytelling

- **Long-Term Policy Support and Legal Framework**

Kumartuli Heritage Eco-Zone Declaration

Annual Green Audit and Public Display

- **Community Participation and Eco-Responsibility Culture**

REFERENCES:

1. Green Committee Formation Deccan Herald. (2020, August 28). Durga Puja: Kolkata's Kumartuli potters struggle for survival amid COVID-19. Deccan Herald.. Retrieved from <https://www.deccanherald.com/india/durga-puja-kolkata-s-kumartuli-potters-struggle-for-survival-amid-covid-19-900138.html>
2. Banerjee, D. (2017). Condition of the Workers of the Idol Making Industry: A Case Study of Kolkata Ward No. 9. International Journal of Advanced Research, 5(12), 927–933.
3. Bhattacharya, S. (2023). Potters without a Wheel: Ethnography of the Mritshilpis in Kolkata. Routledge India.

4. Paul, P., & Das, A. (2021). *Idol Makers of Kumartuli, Kolkata: Socio-cultural Issues and Change—An Ethnographic Study*. Akinik Publications.
5. Hindustan Times. (2016, October 6). Going green, the Puja way. Retrieved from <https://www.hindustantimes.com/kolkata/going-green-the-puja-way/story-g2oO9WWpgYo4z28YwWUCnK.html>
6. The Telegraph India. (2022, August 29). Letters to the Editor: Climate change hurdle for Kumartuli artisans ahead of Durga Puja. The Telegraph India. Retrieved from <https://www.telegraphindia.com/opinion/letters-to-the-editor-climate-change-hurdle-for-kumartuli-artisans-ahead-of-durga-puja/cid/1956894>
7. The Dialogue Box. (2023, October 18). The Hidden Heroes of Kumartuli: Women Idol Makers and Their Struggles. The Dialogue Box. Retrieved from <https://thediologuebox.com/kumartuli-women-idol-makers-and-their-struggles/>
8. Chakrabarti, D. (2022). Transitioning infrastructures and socio-cultural practices at the idol-making cluster of Kolkata's Kumartuli. In D. Iossifova, A. Gasparatos, S. Zavos, Y. Gamal, & Y. Long (Eds.), *Urban Infrastructuring: Reconfigurations, Transformations and Sustainability in the Global South* (pp. 157–172)
9. Chakrabarti, D. (2020). Place and Practices of the Idol-making Industry of Kolkata: A Visual Ethnography of Kumartuli. *Urbanities*, 10(3), 176–192
10. Mukhopadhyay, R. (2019). Contesting Spaces of Urban Renewal Project: A Study of Kumartuli's Artist Colony. In *Urban Renewal and Resilience: The Case of Kolkata* (pp. 45–60).
11. Lahiri, S. C. (2021). Re-imagining Kumartuli—The Artisan and the City. *Urbanities*, 11(1), 45–60
12. Das, A. (2020). *Idol Makers of Kumartuli, Kolkata: Socio-cultural Issues and Change—An Ethnographic Study*. New Delhi: Akinik Publications.
13. Roy, A., & Ali, S. A. (2024). Examining the Impacts of UNESCO's Recognition of Durga Puja as Intangible Cultural Heritage on the Artistry of Kumartuli, Kolkata
14. Times of India. (2024, August 6). It's raining problems for idol makers. The Times of India. Retrieved from <https://timesofindia.indiatimes.com/entertainment/bengali/movies/news/its-raining-problems-for-idol-makers/articleshow/112308577.cms>
15. Iyer, R. R. (2020). *Environmental Management: Issues and Concerns in Developing Countries*

WEBSITES:

16. https://www.researchgate.net/publication/351750501_Re-imagining_Kumartuli-The_Artisan_and_the_City
17. https://www.academia.edu/41278722/Contesting_Spaces_of_Urban_Renewal_Project_A_study_of_Kumartuli_s_Artist_Colony
18. <https://www.anthrojournal-urbanities.com/wp-content/uploads/2020/03/15-Chakrabarti.pdf>
19. <https://research.manchester.ac.uk/en/publications/transitioning-infrastructures-and-socio-cultural-practices-at-t>
20. https://www.researchgate.net/publication/322423346_CONDITION_OF_THE_WORKERS_OF_THE_IDOL_MAKING_INDUSTRY_A_CASE_STUDY_OF_KOLKATA_WORD_NO9
21. <https://www.deccanherald.com/india/durga-puja-kolkata-s-kumartuli-potters-struggle-for-survival-amid-covid-19-900138.html>
22. <https://thediologuebox.com/kumartuli-women-idol-makers-and-their-struggles/>
23. <https://www.telegraphindia.com/opinion/letters-to-the-editor-climate-change-hurdle-for-kumartuli-artisans-ahead-of-durga-puja/cid/1956894>
24. <https://www.hindustantimes.com/kolkata/going-green-the-puja-way/story-g2oO9WWpgYo4z28YwWUCnK.html>