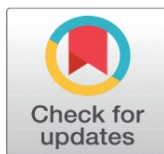
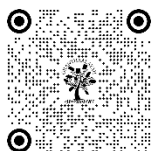


# CLAY MODELLING INDUSTRY AND ITS PROBLEMS: A CASE STUDY OF THE GHURNI REGION

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## DOI

[10.29121/shodhkosh.v5.i1.2024.3331](https://doi.org/10.29121/shodhkosh.v5.i1.2024.3331)

**Funding:** This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

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## ABSTRACT

The clay craft of Ghurni, renowned for its intricate artistry, faces multiple issues threatening its survival. Through an extensive survey and data analysis, this study examines in detail various dimensions: the history, manufacturing process, present scenario, problems, recent changes, and prospects. It traces the roots and evolution since the 1700s, the dependence of families on this cottage industry, the socioeconomics underlying the issues, and measures by agencies to address them. Broad recommendations are presented to boost incomes, safeguard inherited skills, promote sustainable clay craft tourism, and leverage modern technology and e-commerce while retaining cultural uniqueness. Strategic collaboration of clay artisans, government bodies, designers and civil society is vital for the sector's holistic growth.

**Keywords:** Clay Craft, Cottage Industry, Artisan Livelihoods, Handicrafts, Cultural Heritage

## 1. INTRODUCTION

India has a rich tradition of handicrafts, integral to its artistic heritage and culture. Within this, the clay craft of Krishnanagar in West Bengal occupies a distinct place for its intricate, realistic clay models which seem to come alive under the magical hands of hereditary artisans. The genesis of this 250-year-old industry lies in Raja Krishnachandra settling skilled potters in the village of Ghurni to cater to the royal family and local demands. Over generations, the craft flourished, as their clay figurines of humans, Gods, and daily life depicted intricate emotions and details. The open studios and galleries of products in unique Krishnanagar style became an attraction for connoisseurs and commoners alike. However, over the past few decades, this cottage industry has suffered declines owing to multiple problems - competition from cheaper alternatives, shortage of skilled workers, lack of capital, absence of modern technology, inadequate government support and marketing networks. These underlying issues have severely impacted the livelihoods of clay craft persons who possess knowledge of specialized skills handed down for 8-10 generations but face an uncertain future. Reversing the industry's downslide and ensuring its cultural uniqueness and artisanal skills survive to remain a key priority today.

## 2. LITERATURE REVIEW

The Indian handicraft industry has a rich cultural heritage and makes significant economic contributions through employment generation and export earnings (Dhamija, 1979; Hashmi, 2012). However, in recent years it has faced challenges from mechanization, cheaper substitutes, and global competition (Sengupta, 2011; Jena, 2010). This literature review analyzes current issues and challenges facing the handicrafts sector, especially the welfare of artisans.

A major theme is the difficult conditions and ergonomic stresses experienced by many handicraft workers (Meena et al., 2011; Sengupta, 2011). Their traditional skills may also be displaced by competition from modern manufacturing and imports, forcing some artisans to switch occupations (Sengupta, 2011; Jena 2010). Marketing problems and lack of institutional support hamper artisans' incomes and sustainability (Narzary, 2013; Mohapatra & Dash, 2011).

Some studies highlight opportunities for tapping wider global markets (Hashmi, 2012; Jena, 2010). However, realizing these opportunities would require interventions to build artisans' capabilities and protect them from exploitative intermediaries. The clustering of enterprises, provision of infrastructure, research and development, and marketing support can address some challenges (Mohapatra & Dash, 2011; Jena, 2010).

The literature indicates handicrafts require integrated policy interventions to preserve cultural heritage and artisanal livelihoods while leveraging globalization's benefits. Future research should assess interventions' impact on welfare using metrics like artisan incomes, health indicators, and sustainability of craft skills. Surveys of artists would provide subjective perspectives on challenges. Overall, this sector necessitates a nuanced approach that balances tradition, welfare, and modern opportunities.

## 3. STUDY AREA: LOCATION AND HISTORICAL BACKGROUND

### 1. KRISHNANAGAR-NADIA REGION:

The clay craft region under study is located around 4 kilometres from Krishnanagar town which lies in the Nadia district of West Bengal. Krishnanagar municipality covers about 16 square kilometres area comprising 24 wards. The main clusters practising the clay craft for centuries lie in Wards 1, 4 and 21-covering regions like Ghurni Putulpatti, Pakhi Para and Haldar Para.

Geographically, Krishnanagar lies between 23° 15' N to 23° 25' N latitude and 88° 20'E to 88° 34'E longitude beside the river Jalangi's banks. The soil found near river banks has suitable plasticity, texture and sediment composition ideal for clay crafts.

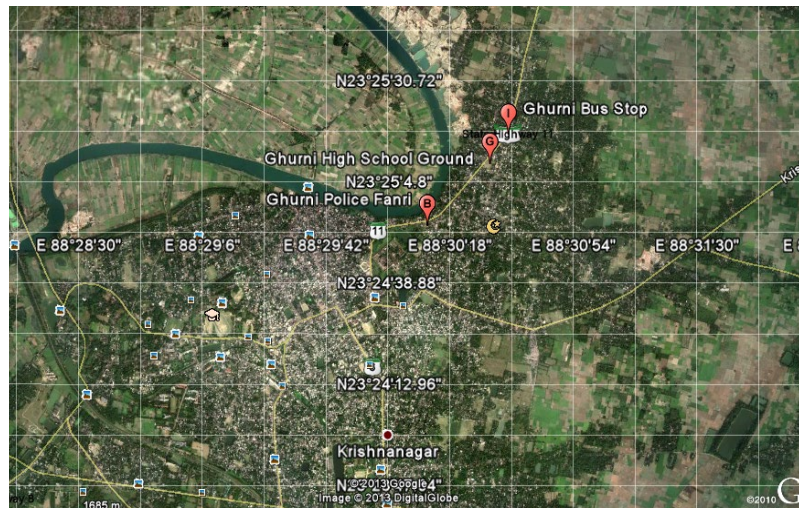
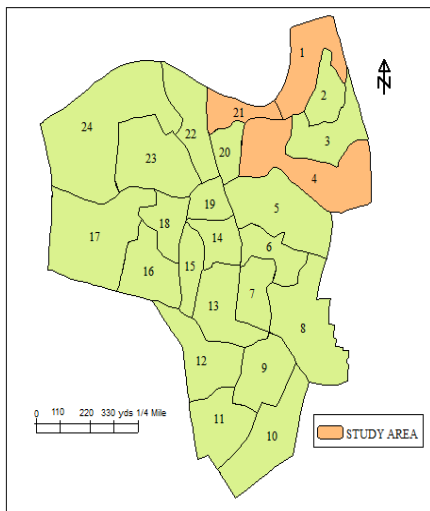


Fig no. - 1: Krishnanagar municipality area

Fig no. - 2: Satellite image of Ghurni region

## 2 HISTORY OF CLAY CRAFT AND PATRONAGE

The recorded history of the clay craft in Krishnanagar spans nearly 250 years. Local folklore traces the arrival of skilled potter families from places like Dhaka and Natore (now in Bangladesh) around 1728. They were settled by the then-ruler Raja Krishnachandra in Ghurni village. Potters produced various types of terracotta items for the royal palace's usage - from cooking pots, and vases to more ornate sculptures.

The region also became home over time to weaver families who migrated here given the Raja's patronage. Demand for clay idols for religious purposes too existed from upper-caste wealthy families. With greater interaction of these artisan groups, the unique Krishnanagar clay style slowly emerged - famed for its intricate designs, vivid expressions and life-like feel. Local soil provided the right consistency of clay. Over generations, hereditary skills were honed further - figures were moulded on metal structures using tools like wood cheyari; detailed textures were created by mixing cotton, wool and paper.

The clay craft received continuous royal patronage, as Krishnanagar became an artistic and literary hub in the late 18th and 19th century Bengal renaissance. Subsequently, with patronage shifting post-independence, their native soil providing sustenance for generations became a sanctified heritage for practitioners belonging to the potters' colony.

#### **4. OBJECTIVES**

The main or prime objectives of my study are –

1. To show the present scenario of the clay modelling industry in the Ghurni region.
2. To know about sources of raw materials that they used and collect information about the market of this Industry
3. To know the standard of living of people who are engaged in the clay modelling industry.
4. To identify the present problems of this industry that are faced by the craftsmen.

#### **5. METHODOLOGY**

Field survey is mainly conducted by collecting primary data through personal direct interaction. The survey was conducted only in the Gurni region and followed the questionnaire method with various types of question patterns such as open-ended, double and multiple options questions etc. The study has been conducted with over 100 samples i.e. over 100 industrial families and a random sampling method is used for collecting the data. The data or information, regarding the industry, the problems the craftsmen face, and the socio-economic condition of those people, are also collected through questionnaires.

#### **6. CLAY CRAFT PRODUCTION PROCESS:**

The intricate process of clay model-making testifies to the specialised skills artisans have honed over centuries. The clay craft production process in Ghurni involves several intricate steps, showcasing the specialized skills of the artisans.

##### **1. PROCUREMENT OF CLAY AND PREPARATION:**

The primary raw material is alluvial clay found near river banks, endowed with the right texture and plasticity for shaping clay models. Earlier easily available from Jalangi riverbanks, the supply was reduced after constructions prevented river access. Currently, small quantities are collected from Jalangi deposits, supplemented by clay from fallow lands and farmlands. The latter quality is inferior.

Collected clay lumps are soaked in water tanks for 7-10 days, and then kneaded to remove twigs, pebbles etc. Bell metal scrap is occasionally added for shine and smoothness. The wet clay is now ready for model shaping.

##### **i. MODEL MAKING:**

Intricately designed metal skeletons form the core structure over which clay is applied. Cotton fabric or paper pieces are used to define contours and build up shapes. Master craftsmen have specialised knowledge on applying optimal pressure while sculpting delicate features. Intricate facial expressions take shape by adding a special herbs-mix paste to manipulate moistness. Finally, garment designs, ornaments etc. moulded separately are attached after drying the idol.

##### **ii. DRYING, SMOOTHENING AND BAKING:**

The wet models are dried indoors, with temporary thatched shelters for large community idol models. Cracks developed during water evaporation are filled using dough and allowed to dry further. Sandpapers and tools are used to smoothen surfaces before painting with natural colours. Finally, idols are baked above 100°C inside clay ovens to harden before sale. The steps testify to the specialized skills required.

## 2. RECENT INNOVATIONS:

Apart from traditional natural dyes for colour, some artisans have incorporated modern fabric colours, the latest painting tools for surface ornamentation and chemical glitters. However, fossil fuel-fired ovens continue to be the norm for baking.

## 3. PRODUCT PORTFOLIO:

The product portfolio of the Krishnanagar clay craft spans traditional motifs of Hindu Gods like Durga and Ganesha. The artisans also create clay models for commercial shops, realistic recreations of everyday life scenes like farmers, weavers, rag pickers, and basket makers. Additionally, they produce faithful copies of real-life objects such as fruits, fish, insects, animals, birds, and even popular comic strip characters like Donald Duck. The clay craft is renowned for its intricate designs, vivid expressions, and life-like feel.

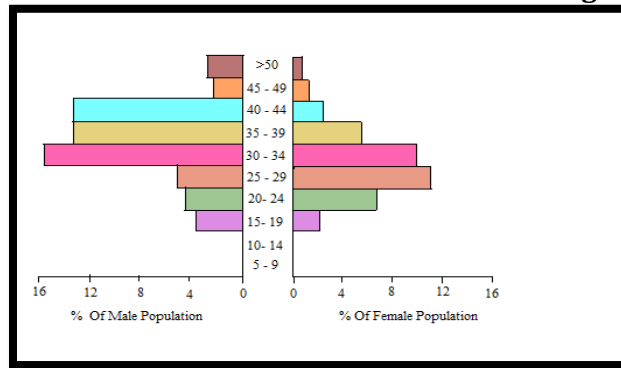
## PRESENT SCENARIO OF THIS INDUSTRY:

### 7. DEMOGRAPHIC AND ECONOMIC PROFILE OF THE LABOUR:

#### 1. AGE – GROUP OF THE LABOUR:

From the age-sex pyramid of the labourers, it is observed that there is no labour up to the age group 10 – 14 which is a good sign for this industry. In the 15 – 19 age group very few numbers of labour engage in this industry. The highest number of male labourers falls in the age group 30 – 34 and the highest number of female labourers falls in the age group 25 – 29. So, it is shown that a huge number of females participate in this industry. But in the 45 and above age group, the number of female labourers decreases more than the male labourers. The survey data shows that 60.55% of the workers engaged in the clay modelling industry are male, while 39.45% are female.

Fig. No. - 3



#### 2. LEVEL OF EDUCATION:

There is a very low percentage of illiteracy among male and female workers. But most of the workers only complete their secondary education. The female workers mainly have below secondary educational level. The survey findings corroborate the low education levels, with 43.54% of male workers and 48.84% of female workers having education below the secondary level. Only 8.16% of male workers and 8.14% of female workers have completed higher secondary education.

Table No. - 1 (Educational Level of the Labour)

	Below Secondary		Secondary		H.S	
	Respondents	(%)	Respondents	(%)	Respondents	(%)
Male	64	<b>43.54</b>	71	<b>48.30</b>	12	<b>8.16</b>
Female	42	<b>48.84</b>	37	<b>43.02</b>	07	<b>8.14</b>

Source: Field Survey

#### 3. THE WORK PARTICIPATION RATE OF ARTISAN'S FAMILY:

Among the surveyed artisan families, both the male and female populations participate in different types of work. The female population generally participates only in the clay doll and modelling industry. The male work participation rate is 66.44% in the Ghurni region and the female work participation rate is 43.56%.



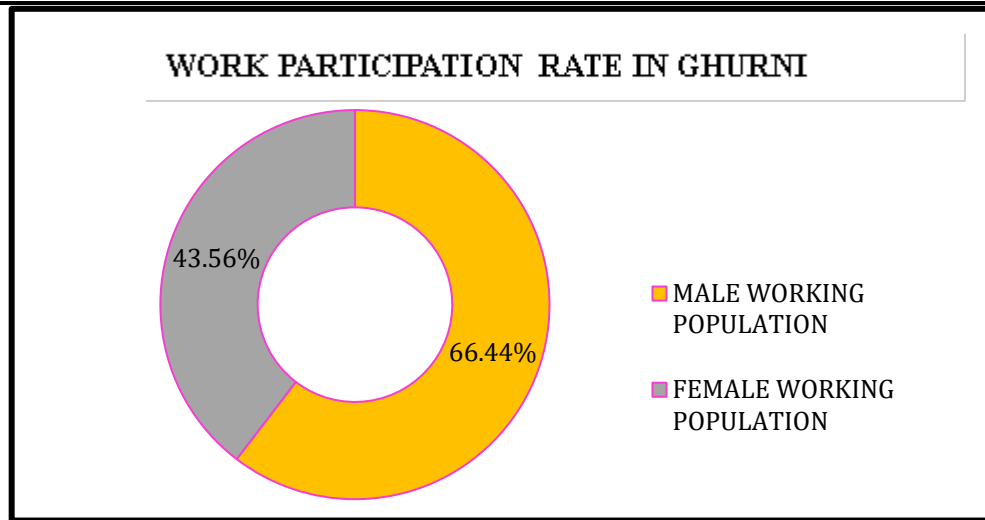


Fig. No. - 4

Most of the family members are engaged in the clay modelling industry. Among the male working population, 78.21% of males presently engage in this industry, 12.87% engage with business and only 8.92% engage in the service sector. Among the female working population, 97.39% engage with the clay modelling industry and only 2.60% engage with the handloom industry or others.

#### 4. TYPE OF WORK:

Labourers are mainly participating in three types of work: modelling, colouring, and others. The "others" category includes tasks such as preparing the soil for making the dolls, creating dice, burning dolls after modelling, and filling cracks with tissue paper. Most of the male workers, 79.51%, are engaged in modelling work. A significant percentage of female workers, 77.88%, are involved in colouring the dolls. Some male workers, 96.15%, also participate in the "others" category of tasks, while only 3.85% of female workers do so. The data highlights the division of labour based on gender in this industry.

#### 5. LABOUR SUPPLY AND WORKING HOURS:

Labourers mainly work for 5 to 7 hours every day. Some labourers work over seven hours. Most of the labourers are local resident of this Ghurni region. Since many years they have been engaged with this industry. As for a long time, the Ghurni region has been a centre of clay doll production so the workers have chosen this industry as an occupation. But in recent days younger people are not interested in joining this industry. As it is a small-scale industry many females also participate in this industry. Very few numbers of labour come from the nearly outside areas of Krishnagar such as Muragacha, Chapra, and Badkulla etc. The survey reveals that 65.63% of the workers are permanently employed, while 34.37% are seasonal workers. Additionally, 78.26% of the workers are paid monthly salaries, while 21.74% receive daily wages.

#### 6. PAYMENT SYSTEM:

Most of the labourers are permanently working under the artisans. A few numbers of workers seasonally work when there is a pressure of work (festive seasons). Most of the craftsmen have labour and they are paid salary for their labour mainly monthly basis. A few craftsmen give daily salaries to their labourers according to their work. Monthly labourers get Rs. 3500 – 5000/- per month. A very small proportion of labourers get Rs. 8000 – 9000/- per month in season time because some craftsmen are economically able to pay them. The labourers who only colour the dolls and models get Rs. 60 to 80/- per 100 dolls or models. However, some craftsmen have no labour because they are economically not able to hire labour. The survey indicates that 69% of artisans employ labourers, while 31% do not have any hired help.

#### 7. MONTHLY INCOME FROM THIS INDUSTRY

The economic composition of the area is an exemplification of the development of the area. Monthly income only from this industry is not very high. Most of the people earn a very low amount i.e. <5000 Rs/ per month and also a large proportion of craftsmen earn up to 10,000 Rs/ per month.

Their income is not so high because they have faced various problems in this industry in recent days. Only a few artisans have an income of over 15,000 Rs/month. 57% of the artisans have taken loans, with 40.35% taking less than ₹20,000, 33.33% between ₹20,000 - ₹40,000, and 26.34% more than ₹40,000. This suggests the need for capital to sustain and grow their businesses.

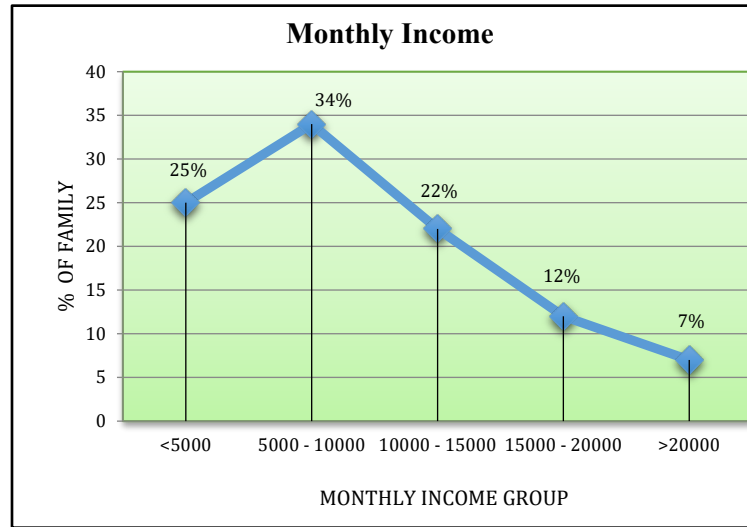


Fig no. 5: Monthly Income from Industry

## 8. BUSINESS PLACE

Mainly people do their industrial business from their houses, they have no shop, and 42% of artisans have their own shop and these shops are mainly situated in the Ghurni Putulpatti area. In the present day, the demand for this fashionable product in the local area is low, and most of the artisans do their business in wholesale form. Only a few artists are retail sellers. The survey found that 42% of artisans have their own shops, while 58% operate from their homes. Among those with shops, 62.77% engage in wholesale business, while 37.23% are retail sellers.

## 9. EXPORT OF FINISHING PRODUCT

Although clay dolls have a low demand in the local area, these dolls are exported to some districts of West Bengal and different states of India. In West Bengal, it is exported to Siliguri, Kochbihar, Asansol, Durgapur, and Kolkata. In India, clay dolls are exported to Delhi, Bombay, Madhyapradesh, Gujrat, Bangalore, Hyderabad, Lucknow and Assam. In Delhi, Assam and Hyderabad most of the artisans exported their finishing products.

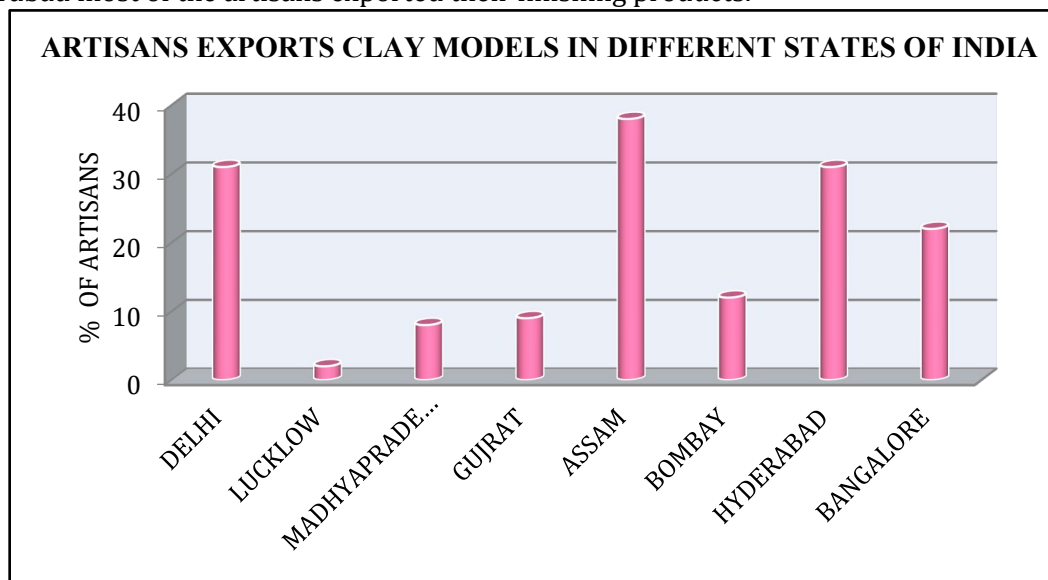


Fig.6

## 8. PERCEPTION OF THE ARTISANS ABOUT THE CLAY DOLL INDUSTRY IN THE RECENT DAY:

In recent days most of the artisans are not satisfied with this industry due to various reasons because the industry has a down market than the previous time. Despite this, they do not want to shift from this occupation because they have learned this work with proper efficiency and they can not able to do other sectorial work properly as this clay modelling industry. But very few percent of artisans want to shift if they get better opportunities than this industry.

Most of the artisans normally choose this industry as this handicraft production has been handed down from generation to generation and in previous times this industry had its own tradition and they are also interested in this work. Some craftsmen entered in this industry due to their low economic condition and they are not able to enter in other service sectors as they have little educational skill.

Due to very low profits now recently the artisans do not want to engage their next generation (85%) in this industry. Now –a –days there is no development. The education facility is increasing from the previous time, so the artisans want the next generation to become educated in the future and will be engaged in different service sectors. Few numbers of artesians (15%) want to engage their son in this industry because they do not continue their education and do not have the capability to join in any service sector.

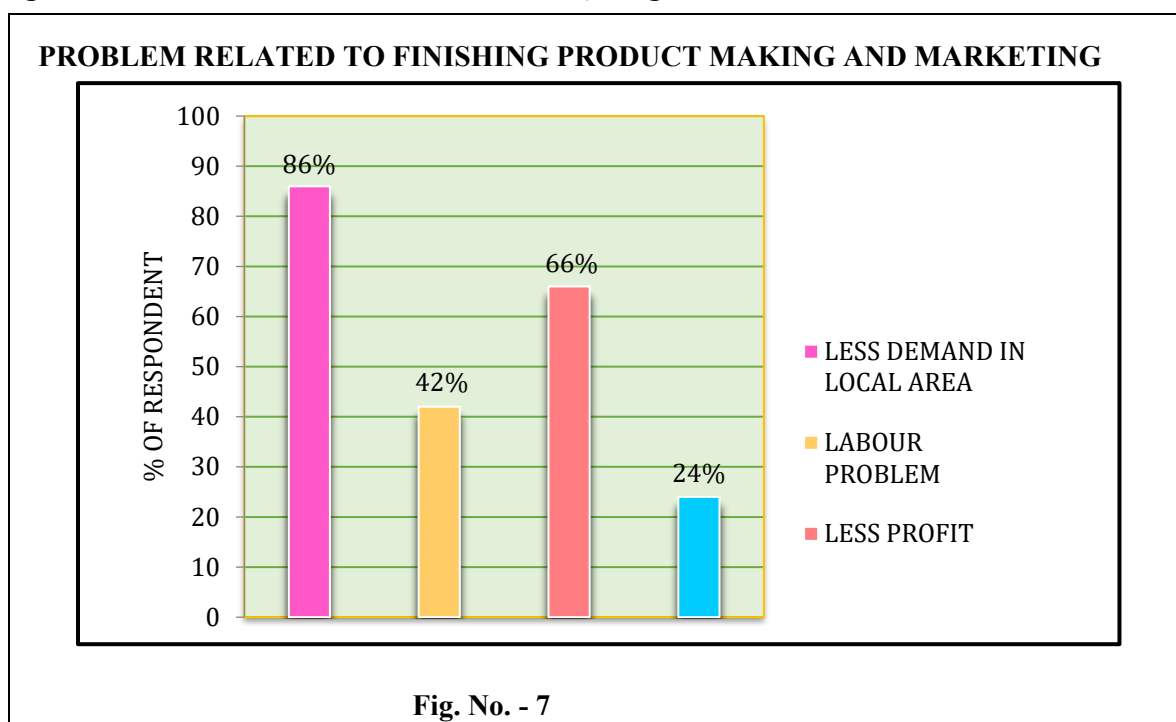
Profit from this industry is very low so the artisans are not satisfied with this industry.

## 9. PROBLEMS OF THE CLAY MODELLING INDUSTRY:

The clay modellers of Ghurni have fallen on bad days. There are various problems associated with this industry in the present day. Problems are mainly related to raw materials and finishing product marketing.

### 1. RAW MATERIALS AND RISING INPUT COSTS:

As the price of all commodities is increasing nowadays so the price of raw materials, for making clay dolls, is also increasing. But the profit is not increasing at this rate. They have a profit of one to one and a half rupees / per doll or bird. There is also a problem of increasing transport costs. The transport cost for bringing the soil from the Jalangi River and other agricultural fields is highly increased nowadays. Clay prices have increased 5-6 times in the past decade, at the present price of one trolly clay is 500 – 600 rupees. The quality of clay is down in present days because most of the clay is collected from agricultural fields. As the outside of the River Jalangi is enclosed, the alluvium soil is not found.



### 2. MARKETING PROBLEM AND CHALLENGES:

This small-scale industry also faced the acute problem of marketing its products. Tastes are also changing among the local people. Even ten years ago, the demand was for clay models of great poets and traditional icons such as

Rabindranath Tagore and Kazi Nazrul Islam, etc. Now, they are losing out. The demand has shifted and so have the artists who have lost their popularity in the local area.

The flourishing market of fibreglass models has forced some of the clay modellers of Ghurni to change the base material of their craft, although they lack the infrastructure for making fibreglass models. Fibreglass is more durable and easier to mould. As clay modelling is a time-consuming work and it requires much effort, the labourers are shifted from this work and joined the fibreglass work.

### **3. LABOUR PROBLEM:**

Lack of labour is also a significant problem. The workers leave their work because they are paid low monthly salaries as the profit is too much low in this industry. Many times it is observed that the labourers are trained by the artisans, then they leave their work and start their own businesses. So, labour deficiency is a significant problem in this region. Generally, this industry has been spread all over the Ghurni area recently. This is also a reason for low profit. Lack of union is also a problem. Due to this problem, any decision to increase the price of a finishing product cannot be taken by all artisans.

### **4. LACK OF CAPITAL, CREDIT AND GOVERNMENT SUPPORT:**

Some artisans are suffering from the dearth of capital. They do not have sufficient capital to increase their business. Though they get loans from the 'District Industrial Center' but there is a limit on the amount of loan. As the loan is to be fulfilled with interest in a specific time, many artisans are not able to take advantage of the loan. Zero artisans reported receiving government stipends/pensions or access to health insurance schemes

### **5. INTRICATE SKILLS LOSS WITH LACK OF NEW GENERATION TRAINING:**

The number of master craftsmen is decreasing as members of the younger generation are switching over to more lucrative trades or more paying professions. There is also no infrastructure for new-generation artists. There is not any facility for continuous training of new workers because the training is generally started in any month and after four days the training programme is totally closed. Mainly the peak season is November to February as some tourists come to the nearest Mayapur. But at other times they have very little income.

### **6. HEALTH ISSUES & INFLUENCE OF POLITICAL PARTY:**

Some artisans said that due to this clay modelling work, some health hazards also occurred such as eye problems, breathing problem, and allergies to working with clay and dust etc. Fibre chemicals and Fen chock powder are some chemicals that create different health hazards.

It is claimed by some artisans that some people do not know the proper technics of this work but they become famous recently just because of their association with the political party.

### **7. TOURIST:**

The number of tourists visiting the Ghurni area, known for its clay modelling industry, has declined. One of the reasons cited is that some artisans have opened shops in the nearby Mayapur area, diverting tourist flow away from Ghurni. The reduced tourist footfall has negatively impacted the business and income of the clay artisans in Ghurni.

### **10. FINDINGS:**

From the above study on the clay modelling industry and its problem in Krishnanagar Ghurni region, it is found that –

- 1) There is both male and female work participation in this small-scale industry.
- 2) Monthly income from this industry is not so very high.
- 3) Labourers are mainly permanent in nature and local residents of Ghurni region. Their educational level is low.
- 4) Most of the male labourers are engaged in making the dolls or models and female labourers are generally engage in colouring the dolls.
- 5) Unfortunately, this traditional industry is today under threat of extinction or steep decline because of the competition from fibreglass models.
- 6) There is a continuous increase in the price of raw materials but the profit is not increasing.



- 7) The demand in the local market has also fallen, as handmade products are becoming costlier in comparison to machine-made products.
- 8) Members of the younger generation are switching over from this industry to more lucrative trades or more paying professions.
- 9) Labour deficiency is a significant problem in this industry. Due to low profit or income labourers leave this industry.

## 11. SUGGESTIONS:

The study reveals different types of problems in this industry. On behalf of them, some recommendations are suggested for the betterment of the craftsmen and for this industry. Such as –

- 1) The high degree of skill and knowledge needed in the handicraft industry. So, to create a new generation of artisans training programmes must be started on a regular basis.
- 2) There should be an organized union to fix the price of the finishing product. As this industry has a problem of less profit, so the price of the finishing product should be increased at a minimum level.
- 3) As this industry faces the problem of low capital so there should be an increase in capital. The advantage of loan with low interest should be for all craftsmen.
- 4) There should be a restriction on the production of fibreglass dolls and models so that clay dolls are regain their own status and shine.

For the improvement of the status of this industry, DIC (District Industrial Centre) now taking some steps –

- 1) The loan is distributed by the DIC in the form of cash. At first, Rs. 5000/- is given as a loan to the industrial worker, and if they fulfil the loan with proper interest then a high amount of rupees is given as loan.
- 2) If anywhere industrial fair is conducted anywhere, the DIC contacts with the artisans to give this information. If the fair is organized by the artisans then 75 rupees daily is given by the DIC to the artisans during the period of the fair.
- 3) Indian overseas bank also have come forward for the development of Ghurni clay artisans and will set up one branch.
- 4) DIC will also make Geographical identification registration on Ghurni clay cluster and the work is under process in coordination with District administration Nadia.

At present chairman of Krishnanagar municipality has shown his interest in the beautification of Ghurni putulpatti region and the development as well as the beautification work that has led to being started.

## 12. CONCLUSIONS

Handicrafts are a part of our artistic heritage unique to the Indian subcontinent. Many of the items are truly beautiful, and environment friendly, factors that give them high value. But now-a-days there is a bound to be resurgence in the demand for clay dolls as the market moves away to fibreglass products. Labourers are also quite from this industry as they lost their business in local market and they shifted towards fiberglass products. Burdened with debt, no proper infrastructure for making new artisans, less profit are the reasons for damage of this industry. This small-scale industry requires some cumulative effort to gain its tradition. In recent times, DIC has taken some measures for the development of this industry. But nothing can eradicate the problem unless there is a proper fulfilment of these measures for all artisans.

## CONFLICT OF INTERESTS

None.

## ACKNOWLEDGMENTS

None.

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