

Present Scenario of the Traditional Brass and Bell Metal Industry of Khagra, Murshidabad, West Bengal

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ABSTRACT

This is an empirical paper that tries to understand the present situation of the Brass and Bell industry of Khagra, a part of the Berhampore Municipality, located in Murshidabad, West Bengal. Brass and bell industry of Khagra is reputed nationally for its quality products which is present here since the pre-colonial period. With the waves of globalisation, like other cottage and small scale industries, this industry is also declining whereas artisans and workers associated with this industry are the worst affected. This paper has attempted to find out the differences in socio-economic profiles of the workers and the owners associated with this industry, what are the major factors of product development, perceptions of the workers and the owners about various aspects of this industry, and lastly to find out the problems of this industry.

Keywords:Artisans, Bell, Brass, Globalisation.

1. Introduction:

Brass and bell industry, an indigenous and traditional one, has had a glorious past since when civilization started in our country. Brass and bell industry, a cottage industry in nature and mainly concentrated in the Central and Eastern part of India, due to the availability of raw materials (zinc, copper, tin) in the plateau region of Eastern India. In the year of 1944-45 there were 180 factories in Khagra, Murshidabad (Murshidabad Zilla Gazetteer 2003). The demand of the bell products of Khagra was very high due to their unique compositions of raw materials i.e. the proportion of copper and tin used to be 7:2 for bell, and for brass the proportion was 10:4 for copper and zinc respectively. (*ibid*) Daily usages, religious rituals, gifts, and sculptures made from this alloy, which has been higher from the ancient past but the demand is decreasing in present (Chattapadhhayay 2017). Brass and bell industry is found in Assam, West Bengal, Odisha, and Uttar Pradesh serves local as well as national market. In West Bengal, brass and bell industry has been located mainly in two regions, i.e. in Bankura and in Murshidabad. Khagra area of Berhampore, and Kandi, 30 km away from Berhampore (district headquarter of Murshidabad), are the two places in Murshidabad district, where this industry has been flourishing. In specific, Khagra used to hold a prestigious position in local and national market for producing excellent bell products, especially dishes. But with time, in one hand the price of the raw materials of bell products has increased and on the other hand the shop and factory owners as well as artisans have moved towards others income opportunities excluding brass products due to losing its long lasting reputation.

The overall trends of cottage industries including this one in India indicate slowdown from the last two or three decades (Dutta 2002). Brass and metal industry of Assam and Odisha has also been suffering (Deka 2014). Workers and artisans, who were associated with this occupation for long, are now leaving this job for uncertain better option (Kaltia and Prasad 2016). Kaltia and Prasad (2016) have also, specifically, tried to unearth how globalisation is affecting brass and metal industry in neo-liberal era in Assam. While talking about the problems for the decaying of this industry, they have pointed out that information about this work like i.e. no security benefits and daily non-fixed wages, the problems of availability of raw materials, non-reckoned middlemen, poor infrastructure, and decreasing demand of these products are also the major booming handicaps of this traditional industry. Considering these phenomenon into mind, this paper tries to put some lights on the present condition of the brass and bell industry of Khagra area of Murshidabad district.

2. Research questions:

Based on literature review and pilot survey done beforehand, two research questions have been identified as follows:

- i. Are there any differences among the owners and the workers in their socio-economic profiles associated with brass and bell industry in Khagra?
- ii. What is the present scenario of brass and bell metal industry in Khagra?

3. Objectives:

This paper has major four objectives which are as follows:

- i. To find out the socio-economic profiles of the shop owners and the workers engaged in the brass and bell industry in Khagra and its surroundings,
- ii. To find out the present scenario of brass and bell metal industry in Khagra.
- iii. To analyses the factors associated with these industries and their importance over production.
- iv. To find out the problems of this traditional industry in Khagra region.

4. Study area:

Khagra is one of the oldest parts situated in the north-west of Berhampore Municipality. Berhampore, situated on the left bank of the River Bhagirathi and covering a total area of 31.42 km², has a rich history which can be traced to the pre-colonial period and currently is the head quarter of Murshidabad district of West Bengal. The extension of Berhampore runs from 24°5' N to 24°7'N and 88°15' E to 88°16'E. In 2011, the total population of Berhampore was 195363 while sex ratio (number of females per 1000 males) stood to be 945.3 (Census of India, 2011). The literacy rate in Berhampore was 79 per cent (*ibid*). Berhampore Municipality has 28 municipal wards among which Khagra area is spread over the Ward Number 3, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15 and 19. Brass and bell factories are mainly located in Wards Number 4, 12, 7 while shops are scattered in Ward Number 11, 12, and 14.

5. Data and Methods:

The present study covers only Khagra and its surroundings of Berhampore where brass and bell industry is located and famous for. This study has mainly used primary data collected through field survey using a semi structured questionnaire. For field survey, this study has considered both the workers and the shop/factory owners associated with this industry based on Stratified Random Sampling Method. Total eighty (80) Brass and Bell metal workers and thirty (30) shop/factory owners have been surveyed, hence the total sample size (N) is 110.

To full fill the first, second and last objective I have used different descriptive statistics while for the third objective Kolmogrov-Smirnov test (K-S test) has been employed. The K-S test is widely used statistical measure in social sciences which helps to validate a hypothesis, hence, for this study K-S Test helps to understand which factors are important for product development in Khagra. And lastly, discussions on the perceptions of the workers and owners on various aspects of this industry provide us some insightful knowledge and avenue about the present situation of this industry and what are the associated problems.

6. Results and Discussions:

6.1. Socio-economic profiles of the Workers:

Among the total 80 workers surveyed, only 19 per cent among them are female, indicating that this industry is male dominated in nature as it requires lots of physical energy. The age structure of the workers denotes that the average age of the workers is 40 years while 26 per cent among the total belong to the age cohort less than 30 years. 19 per cent are within the age cohort of 30-39 years, 32 per cent belong to the age group 40-49 and the rest are of above 50 years age. These figures are the provocative of the fact that the average age of the workers is quite high and ageing among them is common and nowadays youths are not engaging themselves in this industry. Only a few are newcomers in this industry, i.e. near about 18 per cent have less than 5 years of work experiences while 12 per cent have been working in this industry for more than 35 years.

Table 1: Descriptive statistics of the Workers.

Variables	Category	Frequency	Percentage
Sex	Male	65	81.25
	Female	15	18.75
Age	<30	21	26.25
	30-39	15	18.75
	40-49	26	32.5
	>50	18	22.5
Educational	Less than Secondary	50	62.5

attainments	Up to Secondary	14	17.5
	Up to Higher Secondary	9	11.25
	Up to Graduation	5	6.25
	Up to Post Graduation	2	2.5
	PhD/MPhil	0	0
Daly wages (in Rs.)	<90	10	12.5
	91-180	6	7.5
	181-250	26	32.5
	>250	38	47.5
Monthly Household Income (In Rs.)	<5000	17	21.25
	5000-9999	43	53.75
	>10000	20	25
Is this industry declining?	Yes	52	65
	No	28	35

Source: Field Survey, 2017.

While talking about the educational attainment of the workers, this study has found that 62 per cent workers have not completed 10 years of education while 17 per cent have completed their secondary education, i.e. up to 10th grade successfully. 11 per cent have completed 12th grade and only the remaining 8 per cent continued up to higher secondary level. Another interesting fact to look hereupon that none of the worker has any kind of professional training or technical qualification.

All the workers are daily casual wage labours and 86 per cent among the total are working on others' workshops/factories. One out of every eight workers get wage as low as of Rs 90 per day. Near about 33 per cent gets Rs 181-250 daily while 47 per cent workers get more than Rs 250 per day. Their family income also follows what they get from this occupation as they are the main earner of their family. 21 per cent workers' monthly family income is less than Rs. 5000 hence more than half of the workers' monthly income situates in between Rs. 5000-10000, and rest 25 per cent workers' family monthly income is higher than Rs. 10000. As many of the workers' daily wages do not support them to run their family in a decent manner, near about 19 per cent workers among the total have said that are also associated with other subsidiary works like fishing, binding *bidi*, and running small businesses.

6.2. Socio-economic condition of the shop/factory owners:

In total, 30 shop/factory owners have been surveyed and found that all the owners are male by sex. Talking about their age, it can be seen that more than half of the owners' age (average age of all is 51 years) is within the age group of 50 to 60 years, even, 10 per cent of the owners' age is more than 60 years. Educational attainment of the owners is better than the workers surveyed, which is quite obvious and 30 per cent among the total owners have educational attainment of more than higher secondary. Only 17 per cent among them have only studied below the secondary level and 40 per cent have completed secondary education.

Table 2: Descriptive statistics of the Owners.

Variables	Category	Frequency	Percentage
Age	<40	4	13.3
	40-50	7	23.3
	50-60	16	53.3
	>60	3	10
Educational attainments	Up to Secondary	5	16.7
	Up to Secondary	12	40
	Up to Higher Secondary	4	13.3
	Graduation or more	9	30

Income (in Rs.)	<10000	7	23.3
	10000-20000	8	26.7
	20000-30000	5	16.7
	>30000	10	33.3
Is this industry declining?	Yes	26	86.7
	No	4	13.3

Source: Field Survey, 2017.

Monthly income from this activity for the owners varies up to a great extent as we have considered possible all types owners from big shop owners to a smaller one. 23 per cent of the owners' monthly income is less than Rs. 10000/- while for near about 27 per cent it is Rs. 10000-20000/-. 17 per cent owners enjoy a monthly income of Rs. 20000-30000/- and the rest, i.e. 33 per cent owners' monthly income is more than Rs. 30000/-. When asked, 20 per cent of the owners said that they are also associated with other economic activities like in the transport sector and running other small businesses. Though, near about half of the owners have said that they have in this occupation for at least more than 25 years and 40 per cent are in this occupation for 15 to 25 years. One fifth of the total owners have been thinking about occupation change as their present occupation is not remunerative enough. 43 per cent of the owners do not have any employee either in their shop or in factory (Own Account Enterprise), and 33 per cent shop owners have only one employee.

6.3. Present scenario of the brass and bell metal industry:

Brass and bell industry of Khagra has had a good reputation for the production of quality bell products like dishes, bowls, daily used utensils, sculptures, and various kinds of products needed for ritual practices nationally. Though at present only a very few factories are producing bell products and remaining are now engaged with the production of brass items. This deceleration, as per the workers and the owners, is mainly due to the increasing price of raw materials followed by the decreasing demand of bell products. Though, Kandi, a small town, located beside the River Dwaraka and 30 km away from Berhampore, has maintained its tradition of producing bell products. Presently, Kandi region supplies the raw materials of bell production to Khagra region if needed. And on the other hand, brass producers themselves do not produce brass rather they use to buy brass sheets from different areas of Nadia and Bankura districts.

The main products of the brass nowadays industry in Khagra are utensils, things for daily usages, sculptures and goods required for ritual practices. A single factory might be engaged in the production of one kind of product mentioned or might produce more than one kind of product and most of them are engaged in utensil production followed by the other daily usage products. I have found that 47 per cent and 77 per cent of the owners respectively, said that the average cost of the products they produce ranges from Rs. 500-1000/- and Rs 1000-5000/-. 23 per cent of the owners have said that the average cost of the products they produce worth more than Rs. 5000/- and only 10 per cent have also said that they produce small things that do not cost more than Rs. 100/-. 57 per cent shop/factory owners have confirmed that on an average they produce 10 to 20 products daily while 37 per cent have confirmed that they produce less than 10 products daily.

In the past, Khagra used to supply bell products, in particular in all over the country; this study finds that only one among thirty owners has confirmed that still his factory serves national market. Otherwise, all the owners unanimously have confirmed that presently they have only access to local market and mainly they use their showrooms (shops) as the demonstration place for the produced products and they think that the lack of the capital is one of the major problems for this industry. 90 per cent of the total owners have invested their own capital. Only one owner has invested capital borrowed from bank as loan while two owners have lent money from their known to invest in this industry.

6.4. Factors responsible for the development of Brass and Bell metal products:

This section tries to answer what are the main affecting factors for the production of brass and bell products using the standard K-S Test and as mentioned above 14 factors have been considered for this study. I have considered workers and owners separately, which in addition allows me to capture the tussle between these two classes along with affecting variables. Each worker was requested to confer his/her belief that how each factor is affecting brass and bell product development given five categories of responses beforehand, i.e. strongly agree, agree, no opinion, disagree, and strongly disagree. Depending on the D_{Max} value obtained using K-S Test against each variable, different hypotheses are accepted or rejected

for both the workers and the owners. Table 3 shows responses of all the workers on different factors of product development which have been further used for the K-S Test (shown in Table 4).

Table 3: Reponses of the workers on different factors of product development

Factors of product development	Responses (Number of workers)					
	SA	A	NO	DA	SDA	Total
Decreasing demand	16	30	0	28	6	80
Lack of Association and Organisation	12	26	0	34	8	80
High cost of raw materials	51	14	0	14	1	80
Availability of better substitutes	31	40	0	8	1	80
High price of Brass products	31	30	0	18	1	80
Inadequate Infrastructure	2	35	8	32	3	80
Lack of modern technology	11	23	0	39	7	80
Lack of capital (money) investment	45	23	0	10	2	80
Poor transport facilities	6	12	0	46	16	80
Lack of proper training facilities for workers	14	13	0	50	3	80
Inadequate credit facilities	40	17	0	23	0	80
Lack of new investors	42	23	2	10	3	80
Conflicts among workers	4	15	0	27	34	80
Unresponsive attitude of owner towards workers	23	23	1	20	13	80

Source: Field Survey, 2017. (SA: strongly agree, A: Agree, NO: No Opinion, D: Disagree, and SD: Strongly Disagree).

Table 4 shows that among the total 14 factors considered, only for three factors, viz. lack of modern technology, poor transport facilities, and Conflicts among workers, Null Hypothesis has been accepted indicating significance differences of the ratings among the workers.

Table 4: Factors responsible for product development (Workers)

Sl. No.	Factor	Table value (95 per cent confidence level)	Calculated value (D _{Max})	Null Hypothesis (H ₀)
1	Decreasing demand	1.36 / √80 = 0.152052662	0.175	Rejected
2	Lake of Association and Organization		0.325	Rejected
3	High cost of raw materials		0.4375	Rejected
4	Availability of better substitutes		0.4875	Rejected
5	High price of Brass products		0.3625	Rejected
6	Inadequate Infrastructure		0.175	Rejected
7	Lack of modern technology		0.1125	Accepted
8	Lack of capital (money) investment		0.3625	Rejected
9	Poor transport facilities		0.1375	Accepted
10	Lack of proper training facilities for workers		0.2625	Rejected
11	Inadequate credit facilities for workers		0.3125	Rejected
12	Lake of new investors for workers		0.4125	Rejected
13	Conflicts among workers		0.1375	Accepted

14	Unresponsive attitude of owner towards workers for workers	0.175	Rejected
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Source: Field Survey, 2017.

Hence, there is a significant difference of ratings given by the workers of the brass industry of Berhampore for the other 11 variables.

Like the Table 3 shows the responses of the workers on various factors of product development, Table 5 here articulates the same for the owners. And based on these responses, Table 6 shows the results of K-S Test for the owners.

Table 5: Reponses of the owners on different factors of product development

Factors	SA	A	No	DA	SDA	Total
Decreasing demand	11	9	0	6	4	30
Lake of Association and Organisation	9	10	0	5	6	30
High cost of raw materials	14	14	0	1	1	30
Availability of better substitutes	13	15	0	1	1	30
High price of Brass products	7	17	0	5	1	30
Inadequate Infrastructure	1	7	0	17	5	30
Lack of modern technology	8	15	0	7	0	30
Lack of capital (money) investment	12	14	0	4	0	30
Poor transport facilities	1	5	0	19	5	30
Lack of proper training facilities for workers	7	11	0	10	2	30
Inadequate credit facilities	21	7	0	2	0	30
Lack of new investors	3	19	0	8	0	30
Conflicts among workers	6	14	0	8	2	30
Unresponsive attitude of owner towards workers	1	7	0	19	3	30

Source: Field Survey, 2017. (SA: strongly agree, A: Agree, NO: No Opinion, D: Disagree, and SD: Strongly Disagree).

Like for the workers Table 6 shows the responsible factors of product development told by the owners. In case of only one variable (lack of proper training facilities for workers), Null Hypothesis (H₀) is accepted and for all the other variables H₀ is rejected.

Table 6: Factors responsible for product development (Owners)

Sl. No.	Factor	Table value (95 per cent confidence level)	Calculated value (D _{Max})	Null hypothesis (H ₀)
1	Decreasing demand	1.36 / √30 = 0.2483009	0.2667	Rejected
2	Lake of Association and Organization		0.2333	Rejected
3	High cost of raw materials		0.5333	Rejected
4	Availability of better substitutes		0.5333	Rejected
5	High price of Brass products		0.4	Rejected
6	Inadequate Infrastructure		0.3333	Rejected
7	Lack of modern technology		0.3667	Rejected
8	Lack of capital (money) investment		0.4667	Rejected
9	Poor transport facilities		0.4	Rejected
10	Lack of proper training facilities for workers		0.2	Accepted
11	Inadequate credit facilities for workers		0.5333	Rejected
12	Lake of new investors for		0.3333	Rejected

	workers		
13	Conflicts among workers for workers'	0.2667	Rejected
14	Unresponsive attitude of owner towards workers for workers	0.3333	Rejected

Source: Field Survey, 2017.

7. Various aspects of perceptions and problems of the workers and owners related to the brass and metal industry:

This part of this paper investigates perceptions of the workers and shop/factory owners about this industry on various aspects. First of all, workers were asked that how much do they like their work. In reply, 64 per cent workers assured that they 'like' their work and 11 per cent said that they 'love' their work. Only 16 per cent workers are not happy about their work. Careful observation here provokes that though three fourth of the workers surveyed seem happy about their work, but as is discussed in the previous part, they want to leave this occupation mainly due to economic constraints they do encounter on a daily basis, otherwise, some sort of belongings are apparent from these above mentioned figures. 65 per cent workers also believe that presently this industry is declining and losing its prestigious past. On an average, they think that the number of factories located in Khagra has slipped up to half (presently 45 factories are there, according to the workers) than it used to be 20 years earlier from now. They were also asked what might the probable causes for the deceleration of this industry. Perception of the workers about occupational health hazard confers that 68 per cent workers face health problems like shoulder and waste pain, breathing problems, cut and wound, and Spondylitis. Another important point to note that in case of any kind of health problems, 60 per cent of the workers prefers to go to private health care system which is also an additional burden to their livelihood. 90 per cent workers think that the main problem of this industry is created by the shop and factory owners (contestation among workers and owners) while two third hints toward the disguise labour problem in this industry as they believe that factories are overburdened with the numbers of workers. On the other hand half of the workers perceive that lack of capital (money) associated with this industry is also a problem whereas 57 per cent of them also indicate that the problem of availability and ever increasing price of raw materials. All the workers unambiguously agreed that neither did they receive any help from government nor are they aware of any scheme meant for them.

Importantly, one among every three the brass and bell metal workers are thinking to quit this occupation as the remuneration they get seems to be unsatisfactory for them indicating occupational mobility (forced kind of here). One fourth of the workers also believe that they will have to migrate to have a new job which is difficult for them as most of them would turn out to be unskilled in that particular kind of new work. Hence, again, the wage they will get as an unskilled worker might not sound healthy to them. None of the workers get paid during their ill days as they are purely casual labours and as has been discussed earlier that occupational health hazards among the brass and bell metal workers are quite common, hence, health related burdens are also creating difficulties in a regular manner. Factories also remain closed almost half of the day at the time of scorching summer as production cannot be done then. So these are also the days when they remain unpaid totally.

While talking about the perceptions of the owners about the brass and bell metal industry, 87 per cent of the owners think that this industry is declining continuously. On an average, all the owners believe that before 20 years there were at least 50 factories what has now come down to 35 factories. None of the owners think that now this industry is remunerative for them now and neither they are aware of any government scheme for the revival of this industry. Two among every three owners think that the lack of the falling demand of brass and bell product and demand of higher wages among the workers has negative impact on this industry. Near about, all the owners think that as the alternative products of brass and bell metal products are getting cheaper and available over time and this industry is facing steeper competition than ever before. 77 per cent of the shop owners have also blamed poor marketing system for the decaying of this industry.

8. Conclusion:

The all above observations in this paper confirm the decaying of this industry and it has been facing different problems which should be encountered immediately for the revival of this industry. Some problems are common to both the workers and the owners but there are also few specific problems associated with the workers and the owners differently. It can be concluded that brass and bell industry in Khagra is declining and losing its reputation. An overall contestation among the workers and the owners

also seems apparent as their interest varies which is very common in any production system. Government should adopt immediate steps like training for the workers, availability of bank loan, and arranging workshops might be helpful for the rejuvenation of this industry in Khagra.

References:

1. Census of India (2011). Primary Census Abstarct. New Delhi: Census of India.
2. Chattopadhyay, P. K. (2017). History of High Tin Bronze and Brass of Eastern India. Indian Journal of History of Science , 231-242.
3. Deka, A. (2012). BELL AND BRASS METAL INDUSTRIES IN ASSAM: PRESENT STATUS AND PROSPECTS FOR DEVELOPMENT IN THE CHANGING MARKET ENVIRONMENT. Guwahati, Assam: PhD Thesis, Gauhati University.
4. Dutta, S. (2002). Urbanisation and Development of Rural Small Enterprises: Studying the Linkage with Focus on West Bengal. Economic and Political Weekly , 3181-3189.
5. Kalita, M., & Prosad, P. (2016). Impact of Globalization on Bell Metal Industry of Sarthebari, Barpeta (with special reference to local artisans). Apeejay-Journal of Management Sciences and Technology , 72-80.
6. Murshidabad Zilla Gazetteer (2003). Berhampore: Shibalik Traders.