

Brick Industrial Production System and Its Impact on Economic Activity of the Rural Landless Labourers: A Study of District Murshidabad, West Bengal

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Abstract

This study attempts to understand the role of brick industry in changing rural production system and economic activity in relation to the landless labourers of the three community development blocks of district Murshidabad, West Bengal. Two hundred ninety seven respondents, belonging to 27 active brick industries spread over three community development blocks, were selected for this study. The purposive sampling technique was used to select the study blocks. The stratified proportionate sampling technique for the selection of brick industry and proportionate purposive sampling techniques for the selection of respondents were applied. The result shows that majority of the respondents' yearly incomes were constituted from daily agricultural wage labour, daily wages from other than agricultural sectors, daily wages from construction sector, and daily casual daily wages before the brick industry came into existence in the study area. However, the emergence of brick industries has significantly changed the nature of sources of income and share of yearly income. The study also shows that the numbers of working days have significantly increased among the labourers.

Keywords: Brick Kiln Industries, Production Process, Rural Landless Labourers, Economic Activities, Working Days, Daily Wages

Introduction

Rapid urban expansion as well as improving socio-economic status of the people of India not only increases the demands of basic requirements, but also raises the demands of physical infrastructure like roads, buildings, and other infrastructure. To fulfil the physical demands of urban expansion, the small and medium brick kiln

industries located in urban peripheral villages supplies bricks. Clay-made bricks are still considered versatile building materials in the developing world.

India is the second largest producer and consumer of clay-made firebrick in the world (Baum, 2010; Ghoshal, 2008). At present, India has about 100,000 small-to-medium-brick-producing units spread across the country, which produce 140 billion bricks per year (Baum, 2010; Gupta & Narayan, 2010; Prayas, 2004). It is estimated that the consumption of bricks in India is increasing at the rate of about 5–10% per year (Baum, 2010; Maithel et al., 2008).

Unlike India, the State of West Bengal also has about 3,500 brick industries producing 300 million bricks spreading across the different districts of the state (Bera, 2010); whereas, the state requires about 600 million bricks annually to meet the demand. As a result, every year numerous new brick kiln industries are coming up along the urban peripheral villages to meet the increasing demands of bricks.

It is an important sector of informal economy and provides employment on an average 100 people per industry for a period of 4–5 months in a year (Gupta, 2003). Majority of brick industrial workers are unskilled, primarily drawn from the rural landless labourers (Majumder, 2015). The emergence of brick industries in the district of Murshidabad, West Bengal, has significantly changed the rural production systems in relation to landless labourers. In addition, this industry brought numerous changes in economic activities among the rural landless labourers; for example, improving the daily wages and number of annual working days.

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Therefore, this study tries to explore the role of brick industries in changing the production system in the study area in relation to landless labourers, as well as shift in their major economic activities. In addition, this study further tries to understand the role of brick industries in improving the daily wages and average number of working days.

Objectives of the Study

- To understand the nature economic activities of the landless labourers in the study area before they joined the brick industries
- To understand the role of brick industries in improving daily wages as well as working days among the rural landless labourers
- To explore the role of brick industries in changing the rural production systems in relation to the landless labourers in the study area

Study Area

The district of Murshidabad is located in the lower Gangatic plain, extending between 23°43'30" North to 24°50'20" North latitude and 87°49'17" East longitude to 88°46'00" East longitude. Murshidabad district, the former capital of Bengal, has its own historical and geographical importance. It is located almost at the centre of the northern most district of presidency division of West Bengal and plays an important role in connecting both the ends of the Bengal. Total administrative area of the district is 532,500 hectares, which is 6.13% of the total geographical area of the state of West Bengal. Total population of the district is 71,103,807 persons (Census of India, 2011). With a density as high as 1,334 persons per km² (Census of India, 2011), it is one of the most densely populated districts of West Bengal. More than 70% of the population of the district directly or indirectly depends on agriculture for livelihood.

The Community Development Blocks of Berhampore, Murshidabad- Jiagang (M. J) and Domkal- where the study was conducted are located at 24°06' North Latitude and 88°25' East Longitude, 24°14' North Latitudes and 88°16' East Longitude, and 24°08'28" North Latitudes and 88°31'43" East Longitudes, respectively. According to the Census 2011, the total population of these blocks is 446,887, 234,556 and 363,976 persons in Berhampore,

M. J, and Domkal, respectively.

The average population density in the study blocks is quite high. Majority of this population lives in rural area and depends on agriculture. The decadal growth rate is quite high (23.70%) in study area as compare to the state average (17.84%). The literacy rate is 73.51% in Berhampore, but only 69.14% in M. J, and even lower at 55.89% in Domkal compared to a national average of 74.04%.

The share of work participation rate in these blocks is 34.53% in Berhampore, 36.46% in M J, and 35.24% in Domkal, respectively. The share of main workers is 27.64% in Berhampore, 29.83% in M. J, and 27.54% in Domkal, respectively. Similarly, the shares of marginal workers in the study blocks are 6.89, 6.62, and 7.70% in Berhampore, M J, and Domkal, respectively (Census, 2011).

Materials and Methods

Database

The data of this study were collected from primary sources. Field survey was conducted in three community development blocks namely Berhampore, Domkal, and Lalbag of district Murshidabad, West Bengal to collect the information about the number of brick industries. The study blocks were selected based on the number of brick industries. The data regarding block-wise distribution of brick industries in the district of Murshidabad were collected from the Office of the District Land and Land Reforms (DL& RL), Government of West Bengal.

Methods of Data Collection

Information regarding respondents was collected through interview and structure questionnaire survey. Stratified proportionate sampling techniques were used to select the respondents. Two hundred ninety seven respondents were selected from 27 active brick kiln industries spreading over three blocks of Murshidabad District of West Bengal for this study. The schedule questionnaires were filling up to collect the information about sanitation, water supply, electricity, and housing to know socio-economic background of the respondents. In-depth interviews were conducted to know the role played by the brick industries to bring the changes in rural production systems and shifts

in economic activities, daily wages, as well as number of working days among the landless labourers.

Methods of Data Analysis

Simple statistical techniques like mean were applied to calculate the availability of different household infrastructures like sanitation, water supply, electricity, different types housing, etc. Mean and percentage were applied to calculate the share of brick industry in annual income the respondents, estimates the level of improvement of daily wages, and number of working days. Finally, analysed data were tabulated for better representation.

Results and Discussion

General Profile of the Respondents

Study shows that those who are working in brick kiln industries belong to socio-economically marginalized people. Table 1 shows that majority of the respondents

belong to Muslim community, and share of others communities is very less as compare to Muslim. Significant percentage of these labourers belongs to caste categories. The study shows that about one-third (30.0%) respondents still don't have sanitation facility at their houses and one-seventh (18.5%) of respondents have proper sanitation facilities at the houses. Majority (51.5%) of the respondents are depending on muddy traditional sanitation.

In addition, about half (52.2%) of the respondents still don't have electricity connection to their house. About 64.9% respondents have their own water source (tube wells) and remaining 35.1% respondents are depended upon neighborhood and public taps for fetching the drinking water.

Similarly, housing is concern about three-fifths (60.0%) of the respondents have semi *pucca* house and about above two-sevenths (33.3%) of the respondents are still living in *kachha* houses. Only 6.7% respondents are able built *pucca* houses.

Table 1: Socio-Economic Profile of the Respondents

Items	Share in %	Total
Age Group	15- 29 years = 43.3; 30 – 45 years= 45.6 ; 46 years & above =11.1	100
Religion	Islam = 62.6; Hindu= 23.0; Christian and Nature worshippers= 14.4	100
Caste	General = 35.2; O.B C= 33.0; SC= 17.4; ST = 14.4	100
Education Level	Illiterate= 38.1; Primary= 27.8; Upto Eight = 17.4, Secondary= 14.4; higher secondary = 2.2	100
House Type	Pucca = 6.7; Semi pucca = 60.0; Kachha = 33.3	100
Water Supply	Having personal Tubewell= 64.9; Depend on neighbor tube wells or public tap for water = 35.1	100
Sanitation	No sanitation= 30; Have traditional Sanitation at house = 51.5; Improved Sanitation = 18.5;	100
Source of Light	Kerosene = 47.8; Electricity = 52.2	100

Source: field work 2016

Types of Labour and Production Process in Brick Industries

The brick industry is an important sector of informal economy in the district of Murshidabad and provides employment opportunity to approximately 60,000 people (Brick Field Owner's Association, District Murshidabad, 2015-16). The workers inside the industries are divided into five to sixth categories according to their age, skills, and working capability. The healthy and physically strong people are appointed for mud preparation and carrying/ supplying to the brick makers. They are popularly known

as *Pakmillworker*¹. They reach at their workplace at 2:30 am or before. They are daily wage labourers. To carry out their task, the brick industry provides them basic equipment like spade, water pots, soil carrying baskets, and mud carrying *Toli*².

¹ *Pakmillworker*- workers involved in preparation and supply the mud to the Brick Makers

² *Toli*- small mud carrying basket like pot made of woods and one wheel (in the front) and is pushing from back by one person to transport the mud from the pakmill to the field.

The next category of the worker is brick makers. These brick makers are popularly called “*Pathre*³”. The brick makers are most efficient and skilled workers in the industry. Owners always prefer to appoint most efficient and trustworthy person as brick makers to secure the best quality as well as ensure sufficient and continuous production. If anyone is absent from their task, the entire production process gets affected. Almost all the *pathre* reaches their workplace at 3:00 am or before and continuously working up to 9:30 am. After finishing their designated works, they reach their home at around 10–11 am. Their wages are based on the number of bricks they produce per day. It is observed that an efficient brick maker is able to produce 1,000 to 1,500 bricks per day. To perform their task, the industry provides one *forma*⁴, one water pot and one *dhanuk*⁵.

The next category of workers involved in the brick industry is the brick transporters. Their job is to carry the dry (green) brick from the field to the firing point (kiln) for baking and from the kilns to the selling/store point after baking. The brick transporters are comprised of all ages’ people ranging from children, adults, boys & girls, middle age to old age. The children, adults, boys and girls transport bricks on their head, whereas middle- and old-age people use the *Toli*⁶ van to carry the bricks. Here, it is important to note that their duty is divided into two shifts; the morning shift and the evening shift. In the morning shift, they (brick transporters) are engaged in carrying baked brick from the kiln to selling lots/store. The morning shift starts at 6:00 am and continues until 9:00 am. The evening shift starts at 2:30 pm and continues till 5:30 pm. In the evening shift, they (transporters) are engaged in carrying raw bricks from the field to the kiln.

The next category of workers of the industry is *mistry* and *rubbishmen*. The duty of the *mistry* is to set the raw bricks into the kiln. It is very important to note that the level of fuel consumption and the quality brick produced are based on the expertise of the *mistry*. Therefore, they are the most demanded and respected people in the industry. The duty of *rubbishmen* is to plaster/cover the surface of the kiln after loading the green/unbaked brick in the kiln

with sand, mud and rubbish, and remove the sand, mud and rubbish after firing/baking the bricks.

In addition to this, the rubbishmen also has another important responsibility that is to plaster each point, which leaks the air. Normally, the rubbishmen works under the supervision of the *mistry*. The rubbishmen are daily wage labourer; whereas, the *mistry* is a salaried worker.

The last category of the brick industrial worker is fireman. The fireman is responsible for firing the raw bricks in the kiln. On an average, six firemen work in a brick kiln industry. The whole kiln is divided into a number of sections or parts. Therefore, to complete the baking/firing of one section/part requires 16–20 hours continuous firing. The duration of firing mainly depends on the dryness of the bricks. Firemen work round the clock. The whole baking time is divided into three shifts and each shift is 6–7 hours long.

Two firemen are responsible for completing one shift. Here, it is very important to note that the majority of these firemen are migrant laborers. They come from nearby districts like Birbhum and states like Jharkhand, Bihar, and Eastern Uttar Pradesh. These firemen are recruited through labour contractors for a period of 6 months or till the end of the production season, whichever is earlier. These firemen live within the premises of the brick industry. The owner provides them very basic life-supporting facilities like a tiny house made of bricks for the six firemen, tubewell for water, small unhygienic toilets, coal (fuel) for cooking and electricity for lighting. These firemen are also salaried labourers. The production system in the brick industry is totally based on the division of labour. The entire process of production is about co-operation and coordination among the labourers. All of them get a portion of their income at the weekend and the remaining payment made after the 6 months or at the end of the production season.

Shift in Economic Activities of the Respondents

The workers of the brick industries are constituted socio-economically marginalized, downtrodden, and landless rural poor people. Therefore, majority of them were depended upon agriculture and allied sectors for their earning and livelihood. However, after the coming up of

³ *Pathre*- the Labourers involved in brick making are called as *pathre* by the local people.

⁴ *Forma* – The Dice use to shaping the Bricks known as *Forma*

⁵ *Dhanuk*- It is use to cut the mud during shaping

brick industries in the study areas, offers of opportunity/alternative source of earning to these landless rural labourers at their villages have increased. The brick industry leads the radical structural changes in economic activities among these rural landless labourers. The rural landless are able to manage shifts in their activities or source of earning from agricultural and allied daily wage labourers to informal industrial labourers.

The study (Table 2) shows that about one-third respondents were involved in agricultural daily wages for earning/livelihood. Similarly, about one-fourth respondents have reported that they were working as seasonal agricultural migrant labours and it was the main source of their earning. Another one-fourth respondents have reported that they were involved in construction sectors and the daily wages from it was the main source of earning/livelihood.

In addition to it, about 9.6% respondents have reported that agricultural daily wages labours native plus daily wages from migrant agricultural labour from other districts were the main source of earning. Only 3.3% respondents have reported that they were depended upon other casual labours for earning/source of livelihood before they joined as brick industrial labourers.

Table 2: Shift in Economic Activity Among the Respondents (Landless Labourers)

<i>Previous Economic Activities</i>	<i>Percentage</i>
Agricultural daily wage labour at native	33.3
Seasonal Migrant agricultural daily wage labour	27.4
Migrant labourers in construction sector	26.3
Other casual labour	3.3
Both Agricultural daily wage labour at native as well as migrant agricultural daily wage labour	9.6
Total	100.0

Source: *Field work 2016*

Improvement in the Number of Working Days Among the Landless Labourers

Almost all the landless labourers in the districts were depending on agricultural and allied-based daily wages for their earning. Daily wages were the main source of livelihood among these rural landless labourers in study areas. Since agro-based employments are very much seasonal in nature and based on cropping seasons, labourers were getting employments for few fixed days during plantation (mainly rice) and another few days during harvest season. However, these few days' employments were further dropped due to withdrawal of manual labour and implementation of herbicides to remove the weeds.

Therefore, the rural landless labourers were facing an acute employment crisis in their respective areas. As a result, these landless labourers were forced to migrate from their villages. However, the coming up of brick industries in the study area not only creates employment for these rural landless labourers, but also halts them from out migration.

The study (Table 3) shows that the landless labourers who were involved in agricultural daily wage labourers (14.4%) were getting about 30 days employment in a cropping season. Similarly, those respondents (49.3%) who were working as seasonal agricultural migrant labours for earning were getting 40 days in a year.

In addition to about 30% respondents reported that they were involved in construction sector and getting at most 105 days employment in year. Remaining 6.3% respondents were reported that their previous occupation was daily casual labours and were getting about 75 days' employment in a year. However, about 16.3% respondents reported that coming up of brick industries in the villages provides at least 110 days continuous employment in a production season/year. The remaining 83.7% respondents reported that they are getting about 135 days employment in a production season/year.

Table 3: Employment Provided by Brick Industry and Others Sector to the Rural Landless Labourers in the Study Areas (in a stretch)

<i>Agri- allied and others sectors workers</i>			<i>Brick industrial Workers</i>	
<i>Sectors of Employment</i>	<i>Mean days/Season</i>	<i>Percentage</i>	<i>Mean days/Season</i>	<i>Share in %age</i>
Daily Agricultural Wage	30	14.4	110	16.3
Daily Wage from Migrant agricultural works	40	49.3		
Other casual labour	75	6.3	135	83.7
Migrant labourers in Construction sectors	105	30.0		

Source: *Field work 2016*

Improvement in the Daily Wages Among the Landless Labourers

The study (Table 4) shows that the daily wages of these landless labourers were vary from one sector to another. Those who were involved in agriculture were getting Rs 150 as daily wages. Similarly, those who were engaged as agriculture wage labourers in other places were getting about Rs 200 as daily wages. In addition to it, the study also shows that those respondents who were involved in construction sector were receiving higher daily wages,

that is, Rs 300. Furthermore, the study also shows that the respondents who were involved in others casual labours were receiving about Rs 200 as daily wages.

However, the mean daily wages of these labourers significantly increased (except the construction labour) as they joined the brick industry as the industrial labour. The study shows that maximum improvement in daily wages is recorded among the agricultural daily wage labourer (66.6%), followed by other casual labourers and seasonal migrant daily wage labourers (Table 4).

Table 4: Improvement in Daily Wages Among Brick Industrial Labourers

Agriculture - allied and others sectors workers		Brick Industrial Workers	Improvement in daily wages
Sectors of Employment	Mean Daily Wages	Mean Daily Wages	(Percentage)
Agricultural daily wage labour	Rs. 150	Rs. 250	66.6
Seasonal Migrant agricultural wage labour	Rs. 200		25.0
Migrant labourers in Construction sector	Rs. 300		-16.6
Other casual labour	Rs. 200		25.0

Source: Field work 2016

Share of Brick Industries in Annual Income Among the Landless Labourers

As we mentioned, the economic activities and sources of income of these landless labourers were different and these sectors constituted a major part of their yearly income. These different sources ranged from daily wage from agricultural labour, to daily wage from other than agricultural sectors, daily wage labour from different activities, and daily wage construction sectors. However, the earning pattern has changed among these landless labourers after brick industries came into existence. The major share of yearly income of these rural landless labourers is now coming from the brick industries either in the form of daily wages (*Pakmillers*, brick makers, transporters, and rubbishmen) or monthly salary (*mistry* and firemen) as brick industries provide employment for approximately 6 months (October–March) in a production season/year. The remaining period of the year, these landless labourers earn from the different sectors of economic activities including daily wage from agricultural daily wage labour.

Study (Table 5) shows that the total average income of *pakmiller's* from brick industry is about Rs 50,000 per

season and the income of remaining 6 months from other sectors is about Rs 22,000 rupees. The share of brick industry in annual income of *pakmillers* is about 69.41%. Similarly, average income of a *brick maker's* from brick industry is about above Rs 54,000 rupees and the income of remaining 6 months from other sectors is approximately Rs 23,000 rupees.

Therefore, brick industry constitutes about 70% of brick-maker's annual income. In addition to it, the average income of a *brick transporter* from brick industry is about Rs 27,000 rupees and the total average income of remaining 6 months from other sectors is approximately Rs 25,000 rupees. Thus, the income from brick industry for a transporter is about 53%.

Further, the study shows that the total average income of *mistry* from brick industry is about Rs 50,000 rupees per season and the income of remaining 6 months from other sectors is about Rs 24,000 rupees, which about half of income generated from the brick industry. The study also reveals that the average income of *rubbishmen* and *firemen* from brick industry is about Rs 45,000 and Rs 52,000 rupees per season, respectively, and the share of income from brick industry for rubbishmen and firemen is approximately 60% and 70%, respectively.

Table 5: Share of Brick Industry in Annual Income of the Respondents

Category Workers	Income from Brick Industry	Income from Other Sources	Annual Income from all sources	Share of Brick Industry	Share of other sources
Pakmill worker	50800	22388	73188	69.41	30.58
Brick Maker	54300	22745	77045	70.47	29.52
Transporters	27000	24375	51375	52.55	57.45
Mistry	50200	24240	74440	67.43	32.56
Rubbishmen	45000	30220	75220	59.82	40.17
Firemen	52,000	22,750	74750	69.56	30.43

Source: Field work 2016

Changes in Rural Production System in Relation to the Respondents

The study shows that the main sources of income for these poor landless rural villagers were either working as daily wage labourers in the agricultural sector or migrant labourer before brick kiln industry came into existence. However, the brick industry had brought many changes in economic activity among these poor landless labourers. They are now engaged in industrial production processes and the major part of their yearly income comes from industrial wage labour rather than agriculture-based production system. The economic activities of the respondents have gone through the significant changes after the brick industries come into existence in the study area.

The study further shows that these landless labourers have also incorporated their yearly income from other sources like daily wage labour from construction sector, daily wage labour from other places, daily wage labour from other daily causal labour activities but the share of income from all these economic activities is lesser than the income generated from the brick industries. The study also unfolded that the significant part of productive rural labour force is now engaged in industry-based production process rather than agro-allied-based production system. Therefore, significant shift is recorded in terms of production activities in relation to the landless labourers in the study area.

Conclusions

An analysis of data collected from the field reveals that the brick industries have brought significant changes with respect to production behaviour in the study area in relation to the landless labourers. In addition, the brick industries have played an important role in improving daily wages and number of days of employment in the study area, which is bringing many changes in relation to

socio-economic condition of the landless labourers for a short period of time.

Though brick industry had brought many changes in relation to production behaviour and economic activities of the rural landless labourers for time being in the study area, the uncertain nature of operation and frequent changes of location in search of raw materials raise serious question among the labourers to get continuous employment in the brick industries. Furthermore, the informal nature of operation, exploitative nature of owners-labourers relation, exclusion of brick industries from the purview of organised sectors of economy and industry prevent these labourers to get their due benefits. Therefore, it is recommended that all these discrepancies should be removed from the brick industrial sector to deliver its real benefits towards the rural landless labourers and society.

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