

Labour Market Dynamics & Industrial Relations in Brick Kiln Industry

Research Study as part of the Project:
**Empowering CSOs for Decent Work
and Green Bricks in India's Brick Kilns**

Ruchi Gupta



**Centre for Education and Communication
New Delhi**

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 terre des hommes
Help for Children in Need



Funded by the
European Union

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March 2018

Published by

Centre for Education and Communication (CEC)

173-A, Khirki Village, Malviya Nagar, New Delhi - 110017

T: 91 11 29541841 / 29541858 F: 91 11 29542464

Website: www.cec-india.org

Copy edited and designed by

The Information and Feature Trust (TIFT)

Lakshmi (Kayyadam), Thondayad, Cheverambalam (PO), Calicut – 673017

M: +91 9526577902. E: pksindhumenon@gmail.com

ISBN: 81-88160-23-7

“The study, initially assigned to Arati Pandya, was reassigned to Ruchi Gupta subsequently. Ruchi Gupta is the author of the report.”

This volume is part of a project, ‘Empowering CSOs for Decent Work and Green Bricks in India’s Brick Kilns, implemented in partnership with Prayas and Terre des Hommes (TdH) and funded by the European Union (EU). The views expressed in this publication do not necessarily reflect the views of the European Union.

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Foreword

With an annual growth rate of 5–10 per cent, India is the second-largest brick producer in the world, after China. According to a report by J.S. Kamyotra, Director, Central Pollution Control Board CPCB (2017), about 140,000 brick kilns operate in India, contributing to an annual brick production of approximately 240–260 billion. With each brick kiln employing about 200 workers (a conservative figure), the total number of workers employed by the industry works out to approximately 20 million; which is roughly 4.21 per cent of a total of 474 million work force in India (NSSO 2011–12).

Brick-making is an age-old practice in India. With archaeological findings indicating the practice of manufacturing fired bricks since 3500–2700 BCE in the early Indus valley civilisation of India, the centuries-old informal and traditional phenomenon of production still persists with very few technological innovations in the industry till present times. A very recent data by J.S. Kamyotra depicts that 74 per cent of total bricks in India are produced through the Fixed Chimney Bull's Trench Kiln (FCBTK) technology, the most prevailing technology, which is believed to have been introduced by W. Bull, a British engineer in 1876.

Interestingly, the brick Industry in India, characterised by traditional methods of production technology, contributes to the prevalence of labour employment practices involving bondage and modern-day slavery. Debt bondage appears to be the result of numerous factors coming both from the supply side (employers' constraints and motivations) and from the demand side (workers' constraints and motivations). Poverty, drought, malnutrition, starvation, anaemia, caste and many other socio-economic issues force workers to migrate. Inadequate and ineffective implementation of government initiatives such as the Mahatma Gandhi National Rural Employment Guarantee Act have not been helpful in addressing the economic needs of the marginalized communities, forcing them to migrate and thereby accentuating the vulnerability of workers to bondage and exploitation. Further, although brick kilns form a part of the industrial sector, there is no evidence to indicate that social relations are subsumed; rather, they are reasserted and used as a means of exploitation. Recruitment is organised along caste lines with cash advance forming the backbone of this system. There is a segmentation that exists in the labour market based on caste too. Rooted in the notions of certain castes being good at certain occupations, each task category in the brick kilns has its separate dedicated caste category. Studies also reveal that there is a "rigid compartmentalisation of work" on the basis of sex too.

With this background, Centre for Education and Communication (CEC) undertook this research study with a focus on the state of Uttar Pradesh to understand the dynamics of the labour market and industrial relations in the brick kilns, considering the fact that the industry brings together thousands of kilns and millions of workers year after year. In doing so, the study has tried to systematically analyse and understand the component of labour market dynamics, both at the source and destination states of workers, while locating the brick industry in terms of the extent of demand for workers, sourcing of workers and their deployment.

From a labour market perspective, the study has probed factors such as seasonal employment, advance payments, contractor, caste, family labour, and preference to return for agricultural work, in order to understand the role of these factors that have given employment in brick kilns a 'bonded labour' character. The components of industrial relations, covering aspects of conditions of work

(nature of employment—regular, casual, temporary or seasonal, working hours, leave facilities); methods of determining wages and payment of wages; how women’s labour was constituted in the kilns; workers’ access to social security; and the presence and role of trade unions and the role of trade union and labour administration in disputes, have been analysed.

In doing so, the study has attempted to understand the changing structure of the brick industry, impact of the real estate development, impact of the environmental norms, varying taxations in the industry within a state and its impact on the varying level of concentration of kilns within the state, particularly Uttar Pradesh.

The study has been conducted as part of CEC’s ongoing EU-funded project titled ‘Empowering CSOs for Decent Work and Green Bricks in India’s Brick Kilns’.

As a first step to inform relevant stakeholders about the situation, CEC shared the findings of the study in a formal gathering in Delhi and gathered recommendations. These have been incorporated in this volume. We are sure this report, in the current form, will be of tremendous value to inform stakeholders about the constants as well as the changing factors in the labour market—the organisation of the brick-kiln industry, its division of labour and the sourcing and distribution of labour; as well as the Industrial relations existing in the brick kilns of India. CEC expects that the findings of the report will be instrumental in generating discussions on alternatives, to ensure innovations in India’s brick-kiln sector, which will mutually benefit both the workers and the owners of the brick kilns.

The study was conducted by Ms Ruchi Gupta. It has been a privilege and great learning experience for me too to be part of this study in my support to the researcher. I express my sincere thanks to the researcher for all her efforts in bringing out such a valuable document.

Arati Pandya
Executive Director
CEC

08 March 2018

Acknowledgments

The research on ‘Labour Market Dynamics and Industrial Relations in the Brick-kiln Industry’ would not have been possible without the help and support of a number of individuals.

First of all, I would like to express my sincere gratitude to the brick-kiln workers for their time and patience in sharing their experiences and invaluable insights, which strengthened the study.

The research was conceived of by Mr J. John for the project *Empowering CSOs for Decent Work and Green Bricks in India's Brick Kilns*, and I am grateful to him for providing me an opportunity to carry out this important assignment. He guided the study at all stages and painstakingly went through various drafts. I would also like to extend my sincere thanks to Ms Arati Pandya, Executive Director – CEC, who has sincerely augmented the research execution through technical input and patient support. The study could not have been completed without her support.

The research was much enhanced by the discussions and inputs received during the preliminary and final dissemination workshops. A special word of thanks to Professor Babu P. Remesh, School of Development Studies, Ambedkar University, Delhi, and Dr. S. Gunasekaran, Assistant Professor, Centre for Historical Studies, School of Social Sciences, Jawaharlal Nehru University, for their valuable comments and suggestions. I am also thankful to the partner organisations, particularly Mr Sudhir Katiyar from PRAYAS for his useful insights.

My colleagues at CEC – Meena, Bhawna, Prasad, Javed Mansoori and Javed Iqbal deserve special mention for their support. My gratitude also goes to all other CEC colleagues.

The study has benefitted from the support of Mr Raj Kumar Mishra from UP Police, who introduced me to Surir village in Mathura and helped me connect with the key stakeholders of the brick-kiln industry in the region.

I would like to express my sincere apologies to anyone whose name has been inadvertently left out.

Ruchi Gupta

26 December 2017

1. Introduction

1.1 Context

India produces 200–250 billion clay bricks annually, and is the second largest producer of clay-fired bricks, accounting for more than 10% of global production, in 150,000 to 200,000 brick kilns (Labour File 2014). Building construction in India is estimated to grow at a rate of 6.6% per year between 2005 and 2030 (Maithel 2014), and has now got a greater push after Government of India's Make in India campaign. The building stock is expected to multiply five times during this period, resulting in a very large increased demand for affordable building material like clay-fired bricks. Each brick kiln employs between 250 and 300 workers, bringing the total number of workers to approximately 20 million (John 2014), which is roughly 4% of a total of 459 million (NSSO 2002) workers in India, and of them almost 40% are women. The NSSO data also shows a decrease in agricultural employment (10% point between 2004–05 and 2011–12) and increase in rural non-farm employment in rural areas, construction and brick kilns being among the main absorbents.

In India, brickmaking is typically a manual process. The brick-kiln industry is seasonal and operates in the months of October/November to June/July, ceasing the production process before the arrival of monsoon every year. With archaeological findings indicating the practice of manufacturing fired bricks since 3500–2700 BCE in the early Indus Valley civilisation of India, the centuries-old informal and traditional phenomenon of production still persists with very less technological innovations in the industry till present times. The Indo-Gangetic plains of North India comprising the states of Assam, Bihar, Haryana, Punjab, Uttar Pradesh (UP) and West Bengal account for about 65% of the total brick production of India. Peninsular and coastal India comprises the remaining 35% of brick kilns. The brick industry is a major source of livelihood in these states and enjoys significant political influence despite being a major contributor to air pollution and responsible for major violation of labour laws (Vajpayee 2016).

1.2 Statement of the Problem

The brick Industry in India is characterised by traditional methods of production technology that contributes to the prevalence of labour employment practices involving bondage

and modern-day slavery. The 2016 Global Slavery Index estimates¹ that 45.8 million people in the world are engaged in some form of modern slavery and 58 per cent of those are living in the countries of India, China, Pakistan, Bangladesh and Uzbekistan. The estimated number of people living in modern slavery in India is 18,354,700, and 51 out of 100 people in India are vulnerable to modern slavery.

Debt bondage appears to be the fruit of numerous factors coming both from the supply side (employers' constraints and motivations) and from the demand side (workers' constraints and motivations) (Bhukuth, Guerin, Parthasarthy, and Venkatasubramanian 2007). Poverty, drought, malnutrition, starvation, anaemia, caste and many other socio-economic issues force the workers to migrate (Menon 2014). Government initiatives like The Mahatma Gandhi National Rural Employment Guarantee Act could have addressed the issue of unemployment to a large extent, if it were implemented well. However, there are problems regarding the failures and delays in receiving payments, lack of employment through the year, providing jobs to only one member of the family, corruption and poor administration.

A large chunk of the workforce that migrates from remote villages in search of employment ends up as bonded labour in brick kilns. Brick-kiln workers, mostly belonging to the Dalit and the Adivasi communities, migrate as families against an advance received from the contractor before/after arriving at the kilns and they work towards repayment of that amount on the basis of a piece-rate system of compensation that is calculated per thousand bricks. According to Gupta (2003), the piece-rate system hides the necessary labour time and the variations in the strength of the team, as also the contribution of invisible workers.

Chopra (1982) states that bondage in the brick kilns appears to be the traditional method of appropriating the labour of women and children as they become attached to the dependant males in their life cycle. For most of the women it is the husband's decision to work in the kiln. Women workers are mainly engaging with moulding and loading the bricks. A case study of the work and family life of women in the brick industry by Gulati (1997) shows that there is a "rigid compartmentalisation of work" on the basis of sex.

In addition, there is widespread prevalence of child labour

¹ Global Slavery Index Findings (2016), <http://www.globallslaveryindex.org/country/india/> retrieved on July 5, 2016, from www.globallslaveryindex.org.

in the kilns. Majority of the child workers are found in the moulding process, which is a very long and hard task for a single worker to carry out. The workers are pressurised to make their children work in the kiln, for tasks like moulding clay or carrying raw material. And the inability of these children to get educated only complicates this vicious circle. With little or no access to schools in and around the area, such children remain deprived from education (Basak 2016).

Workers enter the brick-kiln labour market in a condition of vulnerability, which is exploited by the industry (John 2014). The factors that accentuate this vulnerability are caste, landlessness and chronic illiteracy. Two factors guide the workers into an employer-employee relationship that is exploitative and akin to slavery. These are: (i) the role of contractor and (ii) the power of the monetary advance or loan, as a prerequisite for gaining employment in brick kilns. Contractors are central in the structuring of the labour market in brick kilns. They are usually from the same caste as that of the workers, demonstrating a certain rigidity in the brick-kiln labour market (John, 2014). The contractor identifies the workers, links them to a kiln, gives them advance, ensures that they work to repay the loan, monitors the workers so that they do not run away, and ensures that the employer does not lose the money that has been advanced. This aspect of the labour market dynamics existing in brick kilns perpetuates the bonded labour system that remains a dominant feature of the brick-kiln industry.

The contractor can be seen as part of a triangular relationship: contractor-community, contractor-employer and contractor-worker. The relationship is continuous through the 'work cycle' of the labourers before, during and after they work in the kiln. Policy planners realised the importance of regulating the 'mode of recruitment' to protect the interests of workers. The state promulgated the Interstate Migrant Workmen Act (ISMWA) to regulate recruitment of interstate migrant workers, though it has not been effective in protecting the rights of migrant workers. In Maharashtra, the employment of head loaders in market yards is regulated through Mathadi Boards formed under a state act. However, this example has not been replicated widely. The workers as a group are not organised and therefore not in a position to negotiate with employers for decent wages and work conditions, or put pressure on the state to bring in Mathadi-like legislation. The labour contractors and the employers prefer to avoid formalisation.

While on the one hand there are a number of industrial, environmental and labour standards that are applicable to the brick-kiln Industry, very less implementation or formal measures have been adopted in a full-fledged manner and there is no law or act that pertains to the brick-kiln industry alone. Such a law/act is much awaited both by the trade unions as well as the brick-kiln owners in the industry. However, this industry needs to follow various laws of Central government including Minimum Wages Act (1948), Equal Remuneration Act (1936), Factories Act (1948), Interstate Migrant Workmen Act (1979), Maternity Benefit Act (1961), Workmen's Compensation Act (1936), and Bonded Labour Systems (Abolition) Act (1976). These laws are intended to improve the social security, working and living conditions of workers.

A major concern regarding the unorganised-sector workers in brick kilns is their unawareness about their various rights and entitlements. Decent working conditions are a basic right. According to a report by Anti-Slavery International (2015), the lack of effective action against bonded labour has been exacerbated by a failure to protect workers' rights. The extra working hours, hostile working conditions affecting health of the workers, and lower remuneration for work are a characteristic of the brick kilns in India. Siddharth Kara, who has spent more than a decade researching modern slavery in South Asia, puts the weighted average annual profits at \$920 per bonded labour and revealed that the brickmaking industry is the highest contributor (Goswami 2013). However, the worker remains alienated from these figures, much so owing to the persistence of illiteracy across generations.

1.3 Purpose of the Study

1.3.1 Rationale

1.3.1.1 The Project

Decent work and production of green bricks are the two pillars of the project titled 'Empowering CSOs for Decent Work and Green Bricks in India's Brick Kilns'. These are not mutually exclusive but complementary. The project envisages creative engagements between these two perspectives in theory and in practice. This project will work towards enabling CSOs to become harbingers of positive and transformative change encompassing social, economic and environmental concerns, through: (i) structured knowledge creation and knowledge dissemination relating to factors that perpetuate slavery-

like conditions and prevent inclusion in brick kilns, and (ii) building CSO capacities on aspects of decent work and social protection. The project attempts to promote green bricks through addressing issues of pollution, encouraging energy-efficient designs and top soil conservations. It addresses diversity by affirming inclusion, not by homogenising but by acknowledging and respecting the diversity and countering aspects that make diversity grounds for exclusion. The project seeks to have this transformative change supported by a conducive policy ecosystem. The project demonstrates institutional mechanisms for promoting decent work and green bricks which are comprehensive, sustainable and replicable. The objectives of this action are:

- (i) Overall objective: To usher in sustainable change through decent work and green technology in India's brick kilns
- (ii) Specific objective: To increase the capacity of CSOs including human rights groups, labour organisations, child rights organisations, CSOs working on green technology, brick-kiln manufacturers' associations, workers' associations and local authorities, to enable them to perform their roles more effectively to ensure inclusive 'decent work' in brick kilns and produce 'green' bricks

1.3.1.2 The Research Study

Through this particular research study, titled 'Labour Market Dynamics and Industrial Relations in Brick-Kiln Industry', the project intends to understand the dynamics of the labour market considering the fact that the brick-kiln industry brings together hundreds of thousands of kilns and millions of workers year after year. Though brick kilns form a part of the industrial sector, there is no evidence to indicate that social relations are subsumed; rather, they are reasserted and used as a means of exploitation. There is a segmentation that exists in the labour market based on caste. This segmentation begins before the workers enter the kilns. Rooted in the notions of certain castes being good at certain occupations, each task category in the brick kilns has its separate dedicated caste category. These categories cannot be interchanged. Like the labour market, recruitment is also organised along caste lines with cash advance forming the backbone of this system.

1.3.2 Research Objectives

The objectives of this research are twofold:

- To explore and investigate the constants as well as the

changing factors in the labour market – the organisation of the brick-kiln industry, its division of labour and the sourcing and distribution of labour

- To explore and investigate the Industrial relations existing at the brick kilns

1.3.2.1 Research Concerns

The following are some of the research concerns that have guided this study:

It was important to first understand the supply chain of bricks in the two research areas of west and east Uttar Pradesh and to see how it impacted the working conditions in the brick kilns. The emerging market for bricks and trends in construction industry determine not just the demand and supply of bricks but also the subsequent demand for labour to produce the bricks. Besides, government policies play a dynamic role in shaping the demand and supply factors of the supply chain.

Further, for understanding the component of labour market dynamics both at the source and destination states of workers, an attempt was made to locate the brick industry in terms of the extent of demand for workers, sourcing of workers and their deployment. Information flow in the market is a key to understand the role of intermediaries and the working of the cash-advance system. Understanding of the channel through which information on the industry, location, employment benefits, wages, accommodation, working hours and other rights flows will give lead on who the intermediaries are, the role they play, and the perception of worker and employer on the role and requirement of intermediaries.

From a labour market perspective, whether factors like seasonal employment, advance, contractor, caste, family labour, and preference to return for agricultural work gave employment in brick kilns a 'bonded labour' character was an area of concern.

The component of industrial relations covered aspects of conditions of work (nature of employment – whether regular, casual, temporary or seasonal, working hours, leaves facilities at work); methods of determining wages and payment of wages; how women's labour was constituted in the kilns; workers' access to social security; and presence and role of trade unions and labour administration in situations of disputes.

1.4 Methodology

To understand factors of labour market dynamics, the study takes into account dual components of the demand and supply of labour and the demand and supply of bricks. This industry is highly labour-intensive and bricks continue to be the most extensively used material for construction.

Intensive field visits were made to the research locations, viz. Bhitaura block of Fatehpur in east UP and Mat block of Mathura in west UP. Lengthy discussions were held with the pather, brick-kiln entrepreneur and contractor, and detailed case studies were collected.

Discussions were held with brick-kiln owners and the permanent employees (the *munshis* who oversee the role of manager, accountant and worker supervisor) in the kiln to obtain information on the demand for bricks, labour requirement, recruitment to meet the demand, technological, economical and other problems the owners faced, the technology used in the kilns, government policies, etc. Discussions with workers and their families were on the conditions at the source, reasons for choosing work in the kilns, role of contractors, conditions of work and wages. Direct observations, where possible, were made at the worksite and living places to understand working and living conditions; in Mathura the operation of daily brick market and the weekly market for workers was directly observed.

To understand segmentation in the labour market, worker mobility, and the nature and extent of debt bondage, a questionnaire-based survey was carried out with 20 workers across 3 brick kilns in Mathura and with 50 workers from 9 brick kilns in Fatehpur.

To understand the supply chain of bricks in Mathura and Fatehpur, the researcher adopted the method of direct observation of the processes in the brick market and engaged in discussions with government officials of the revenue department, pollution control board and mining departments, zilla panchayats, real estate developers, regional development authority, intermediaries/market agents, brick-kiln entrepreneurs and members from the local community.

Secondary information including government notifications, circulars, judgements, planning documents and reports were accessed to substantiate the findings on the supply chain of bricks.

1.5 Limitations to the Study

The period when the study was initiated coincided with major government decisions that impacted the brick-kiln industry in more ways than one. The study was initially designed to be conducted in Fatehpur district in eastern Uttar Pradesh and in the kilns of Baghpat in western Uttar Pradesh. The National Green Tribunal, in November 2016, had imposed a ban on construction activities and on operation of stone crushers and brick kilns in the National Capital Region (NCR) to address the pollution that the region was in the grip of. Kilns in Baghpat were shut. The next accessible region after the NCR zone was Mathura district. The kilns were in operation there.

Besides, the demonetisation move in the country impacted the operations of brick kilns in varying degrees. Since the brick-kiln industry was largely cash-driven and they operated on large-scale unaccounted-for money, kiln entrepreneurs in Fatehpur delayed the deployment of workers because of paucity of cash. Due to the above-mentioned delays, the research study could only cover the *pathai* (moulders) workers. The biggest challenge, however, was in accessing brick kilns and workers in Mathura, western UP. There is a huge concentration of kilns in this region and are markedly visible if one accesses the region by the Yamuna Expressway, connecting Greater Noida and Agra.

The initial visits to the kilns in Surir village in Mathura were coordinated with the help of government officials. It turned out that in the region there had so far not been any sort of intervention by a non-governmental organisation/institution. Though the accompanying government officials ensured security, there were multiple occasions when groups of kiln owners surrounded the field while the researcher was at work. In some kilns, workers, for the fear of the owners, refused to engage in any discussion with the researcher. Any conversation happened only after sufficient rapport was built with the owners by visiting them multiple times and at various locations besides the kiln (at brick markets, government offices, etc.).

2. Findings of the Research

2.1 Labour Market and Its Dimensions

According to ILO, 'labour is not a commodity' nor is it to be treated as a mere factor of production, for example like

machinery. Labour market connotes more than the labour and includes the worker's families, their aspirations and failures, their social organisations like trade unions, their political behaviour, and so on. The market is to be treated and handled with a higher degree of sensitivity as labour market services have wider social, political and institutional ramifications.

The demand for labour derives from the demand for goods and services in an economy. The product market has a more important influence than wage rate (Ghose 1995). On the labour-supply side, according to Solow, "Wage rates and jobs are not exactly like other prices and quantities. They are much more deeply involved in the way people see themselves, think about their social status, and evaluate whether they are getting a fair share out of society" (Solow 1990).

India's labour market seems to continue to embed and express very deep inequalities wherein recruitment processes continue to be influenced by group affiliation, and class and caste continue to make an important difference (Haan 2014). The India Labour and Employment Report, 2014, suggests that there is considerable segmentation in the labour market in terms of forms of employment, sector, location, region, gender, caste, religion, tribe, etc., despite the increased mobility.

Labourers sell labour power in a segmented labour market. The local rural economy cannot retain them throughout the year. They often move to be engaged in short-term multiple jobs to support the primary income earned at the root. The NSSO data also shows a decrease in agricultural employment (10% point between 2004–05 and 2011–12) and an increase in rural non-farm employment in rural areas, with construction and brick kilns being among the main absorbents.

Despite India being globally the second largest producer of bricks after China, India's contribution to the global production stands at 10%, followed by Pakistan (8%), Bangladesh (4%) and the Rest of the World (24%).² The brick-kiln industry is characterised as a seasonal industry that continues to operate on traditional technologies of production and is highly labour-intensive. These characteristics contribute to the prevalence of labour-employment practices involving bondage and modern-day slavery.

According to an estimate, the brick-kiln industry's market

in India is expected to grow threefold in the next 20 years, from 200 billion bricks in 2010 to about 800 billion by 2030 (National Bricks Mission).³

2.2 Locating the Study in Uttar Pradesh

Investment Climate, a report on the northern states of India brought out by the Confederation of Indian Industries, suggests that Uttar Pradesh has the highest share in the regional (the northern region comprising of eight states – Delhi, Haryana, Himachal Pradesh, Jammu and Kashmir, Punjab, Rajasthan, Uttarakhand and Uttar Pradesh – and the Union Territory of Chandigarh) GDP, accounting for almost 29.9% in 2014–15. The state falls behind Delhi, Haryana and Punjab as far as the minimum wages declared in the entire region is concerned.

Table 1: Industrial Highlights of UP

Highest share in the regional GDP – 29.9%
Highest contributor in the region in value of output – 6.27%
Highest contributor in the region in net value added – 5.79%
Highest share in the region in the number of factories and workers employed
Regionally, UP is behind Delhi, Haryana and Punjab in average monthly wage

The Annual Industries Survey shows that Uttar Pradesh is the highest contributor in terms of value of output (6.27%) and the net value added (5.79%) in the northern region, and that the number of factories in the state accounts for the highest share in the number of factories and workers employed in the northern belt.

The Uttar Pradesh Pollution Control Board (UPPCB) estimated the total number of brick kilns in the state to be 15,445 in 2016, across its 68 districts. In 2017, UPPCB reported an increase in the number of kilns to 18,395, an increase almost by 20%. Concentration of kilns is seen in both the eastern and western districts of the state. For the purpose of the study, we have focussed on Mathura district in the west and Fatehpur district in the east.

² <http://pscst.gov.in/pscstHTML/brick.html>.

³ Centre for Science and Environment, <http://www.cseindia.org/userfiles/National-Brick-Mission.pdf> retrieved on 15 November 2016.

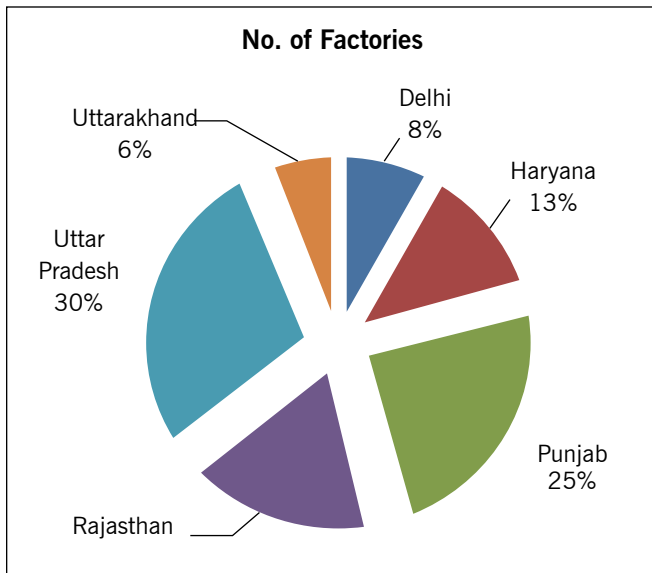


Figure 1: State share in the number of factories

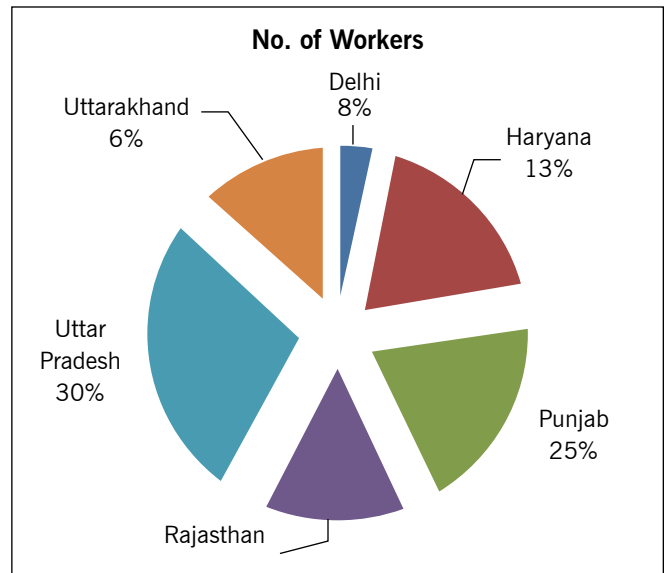
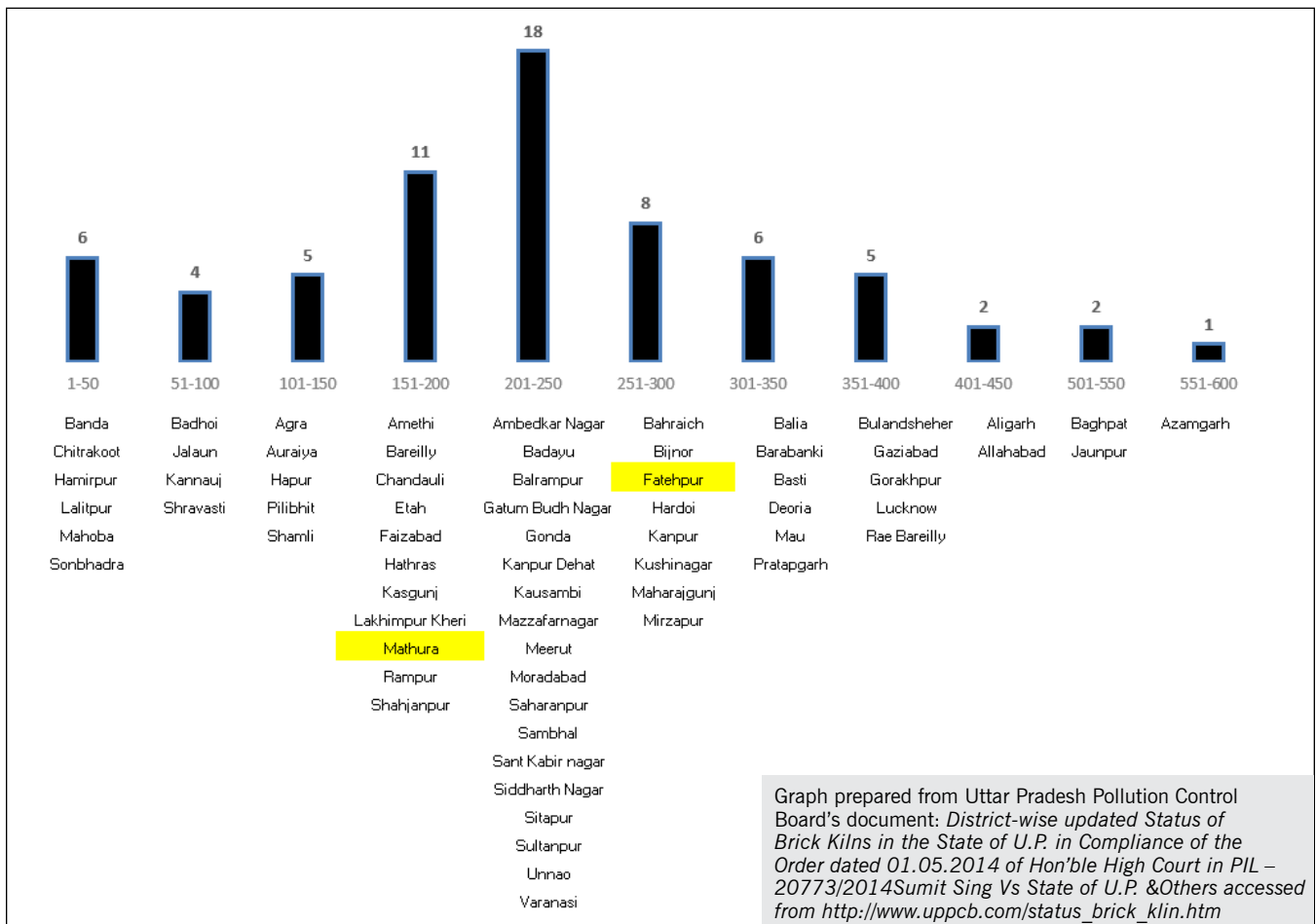


Figure 1a: State share in the number of workers engaged

Table 2: Distribution of Kilns across the Various Districts in UP in 2016



2.2 (A) Understanding the Supply Chain of Bricks in Mathura

2.2 (A1.1) Geographical Setting of Research Location Surir, Mathura

The research in western UP was based in Surir Vijaru Bangar village (henceforth referred to as Surir) of Mant tehsil in Mathura district. Surir is also referred to as Brick Udyog because of the thick concentration of brick kilns in the village, numbering approximately 125 kilns in 2016–17.⁴

Surir lies just at the border where one end of the Taj Trapezium Zone (TTZ) ends in Mathura district. The TTZ is a 10,400 square km trapezium-shaped area comprising over 40 protected monuments including three World Heritage Sites: Taj Mahal, Agra Fort and Fatehpur Sikri. The Supreme Court of India delivered a landmark judgement in 1996 (Writ Petition [Civil] 13381/1994) wherein it banned the use of coke or coal in a large number of polluting units within the Trapezium. As a result, most of the brick kilns shifted to Surir.

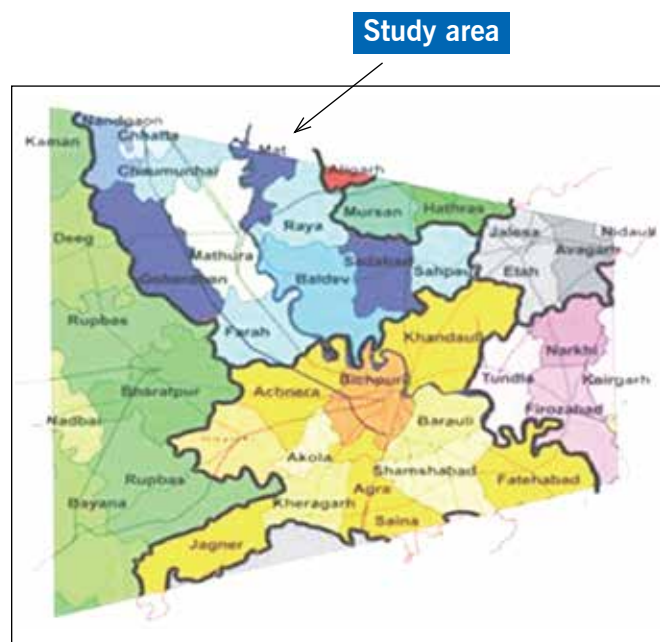


Figure 2: Geographical Coverage of the Taj Trapezium Zone (Map sourced from <http://cpcb.nic.in/>)

The Ministry of Environment and Forests, vide Notification No S.O. 489 (E) dated 30/04/2003, has directed that no brick kiln shall be allowed to be established or operated within a 20 km radial distance of the Taj Mahal and other significant monuments in the Taj Trapezium Zone and the Bharatpur Bird Sanctuary.

2.2 (A1.2) The Demand for Bricks in Mathura

According to officials of the Mathura Vrindavan Development Authority (MVDA), Mathura has seen a very rapid rate of urbanisation in the last decade. This increase has been continuously accentuated by the opening of the Yamuna Expressway in 2012, connecting Delhi with Agra. With the faster and easier accessibility to the region and Mathura–Vrindavan being a prominent pilgrimage centre, there was a steep rise in the construction and real estate sector. Vrindavan emerged as an island of development. The major thrust was from the increased inflow of funds from religious centres in construction of cultural infrastructure like temples and ashrams, and promotion of educational and healthcare infrastructure by the religious groups. This alone contributes to about 30% of the infrastructure development in the region, according to officials.

Parallel to this is the rise in the hospitality and tourism sector and the huge investments in housing and commercial projects. Following is the year-wise rise in approved housing projects, both individual and commercial:

Table 3: Approved Construction by Mathura Vrindavan Development Authority in 2013–2017

Year	Approved residential construction	Approved commercial construction (including group housing)
2013–14	648	42
2014–15	602	29
2015–16	486	18
2016–17	453	29
2017–18	148	16

Source: Mathura Vrindavan Development Authority, Mathura

⁴ Document accessed from the Mathura regional office of the UP Pollution Control Board in May 2017

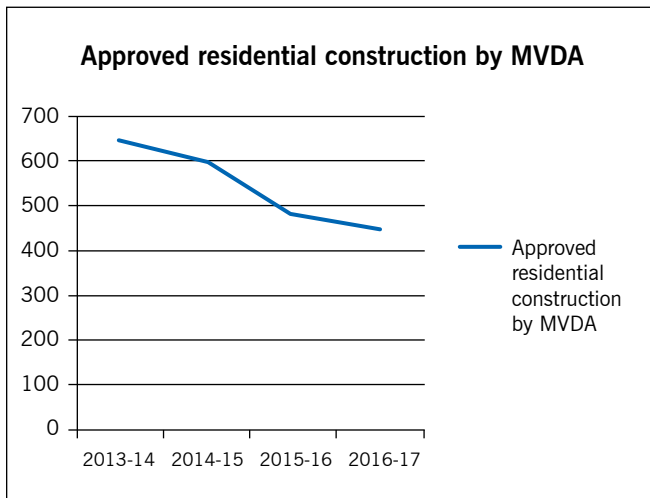


Figure 3: Trends in Construction – Residential

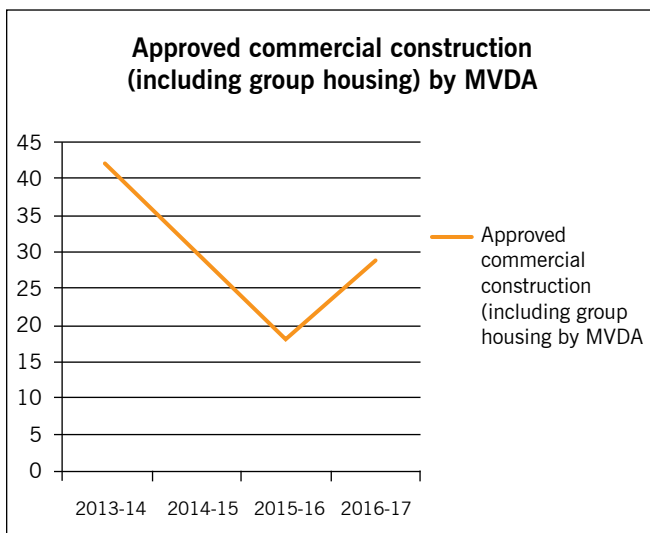


Figure 4: Trends in Construction – Commercial

The authorities claim that though the construction of group-housing projects saw a manifold increase, the occupancy rate continued to be abysmally low, as these projects were more for the purpose of investment and served as ‘second homes’ and ‘getaways for the megalopolis.’ The real estate development was at its peak till 2013. Property prices in the region saw an increase from 70% to even 110%. Vrindavan with a population of 30,000 witnessed a footfall of at least 200,000 during weekends and festivals.

However, this demand for construction received setbacks from

2014 onwards, with the introduction of the Land Acquisition Act of 2013, Benami Transactions (Prohibitions) Amended Act of 2016, and Real Estate (Regulation and Development) Act of 2016.

Combined with the TTZ regulation that has prohibited brick manufacturing around the city of Mathura and Agra and the increased demand for bricks for construction, exclusive brick *mandis* have emerged. These *mandis* meet their supply of bricks from Mant and Chata tehsils (these are part of Mathura district, just where the boundary of TTZ ends), Bharatpur in Rajasthan, and Hodal in Palwal, Haryana.

2.2 (A1.3) Exclusive Bricks Market and the Intermediaries Therein

There are *mandis*, or markets, exclusively selling bricks in the city of Mathura which operate day and night and have a capacity of 100 tractors of bricks parked for sale at any given time. From the point of production of bricks in the kilns to the point of direct sale to the end user through the *mandi*, only one intermediary in the supply chain was identified.

Interviews with stakeholders in the *mandis* reveal that it is mostly the farmers and the villagers who stay in villages near the brick kilns, buy bricks from the kilns, transport it in their tractor-trolleys to the *mandis*, and are also direct sellers to the end customer. The farmers owning tractor trolleys find this a good source of additional income. As one farmer puts it, “*teen saal se sarson aur aloo ki fasal kam ho gayi hai, int bechke he hum log bharpaaai kar paate hain*” (harvest of mustard and potatoes have declined over the last three years; engaging in brick supply helps us to tide over the loss in agriculture). Depending on the size, each tractor trolley has capacity between 4,000 and 8,000 bricks. When an entire trolley is sold, a commission @ Rs 500/per trolley is paid to the *mandi* owner (the person who owns the land on which the *mandi* operates).

Until 2015, the intermediaries bought first-quality bricks @ Rs 3,600/1,000 bricks directly from the brick-kiln owners and sold it @ Rs 5,600 in the *mandi*. But since the 2016 demonetisation, the demand for bricks has fallen and they have not been able to sell it at more than Rs 4,100–Rs 4,200/1,000 bricks.

The following are the costs that the transporter incurs from the brick kiln up to the *mandi*:

Table 4: Estimated Expenditure in Transportation of Bricks

Expenditure Heads	Amount (in Rs)
Tractor rent (when bricks are sold in mandi)	500
Diesel charges	750
Police charges (exceeding permitted tonnage)	500
Labour charges (for loading bricks at kilns and unloading bricks in mandi @ 300/1,000)	1,200
<i>Total estimated expenditure incurred</i>	2,950

Based on the information shared by intermediaries, an estimate of the profits they earn on selling 1,000 bricks of different grades has been arrived at.

Table 5: Estimate of Profits per '000 bricks for the Intermediary

Quality of Bricks	Rates at which Purchased from Kilns per '000	Other Costs per '000	Total Costs per '000	Sale Price per '000	Profit per '000
1. Abbal	3,000	650	3,650	4,200	550
2. Doyam	2,600	650	3,250	3,500	250
3. Pakka Peela	2,200	650	2,850	3,000	150
4. Talsa	1,500	650	2,150	2,300	150
5. Chatka/Tedha	1,200	650	1,850	2,000	150
6. Kachcha Peela	1,000	650	Do not sell this		

2.2 (A1.4) Impact of Government Policies on Brick Manufacturing

For bricks transported from Haryana, the transporters (in this case the tractor owners who transport bricks from Hoddal in Palwal district to Mathura) buy first-quality bricks @ Rs 3,500/1,000 bricks. This includes the loading charges. (In western UP the transporters incur separate labour costs for loading and unloading.) Bhanu Prakash Varshney (president, Brick Kiln Owners' Association, Mathura) mentions that "in Haryana the royalty on clay is fixed at a flat rate on a broad range of installed capacities of brick kiln, which in any case is less than Rs 50,000 per annum."⁵ This is unlike UP

where royalty on sand differs for every unit change in the installed capacity of the kiln (Rs 1,800/one lakh bricks) and also across the region's capacity to produce bricks (Samadhan scheme for royalty on clay in brick kilns, Department of Mining, 2005).

Samadhan Scheme

The mineral policy of Uttar Pradesh, 2004, abolished the practice of classification of brick kilns on the basis of urban and rural areas for realising of royalty. Instead, a system of realisation of hundred per cent royalty on the basis of production capacity (referred as *paayas*) and trade tax paid by the brick kilns was enforced and was referred to as the Samadhan scheme.⁶ It was the government's experience that due to increase in illegal mining there was loss to the state revenue on the one side, and on the other side the legal leaseholder too faced losses in business due to the inability to compete with those businesses that were based on illegal mining. It was on this rationale that the Samadhan scheme was introduced (Government order on Samadhan scheme for clay is attached as an annexure).

Table 6: Slab-wise Royalty Rates on Sand in Haryana

Type of Brick Kiln in Haryana	Category of Kiln	Rates of Royalty (lump-sum amount) per Annum (rate of royalty per metric tonne is Rs 18)
Brick kilns with capacity of 28 ghoris or more of kachi bricks	A	30,000
Brick kilns with capacity of 22–27 ghoris or more of kachi bricks	B	25,000
Brick kilns with capacity of less than 22 ghoris or more of kachi bricks	C	15,000
Brick kilns not fired during the year in which stock in and outside the kiln as on the 1st day of April and the available stock of bricks of all types is no more than 5 lakh bricks	D	5,000

Source: First Schedule, Haryana Mines and Minerals Concession Rules, 2012

5 <http://www.haryana.gov.in/pressrelease/HaryanaMines&MineralConcessionRules2012.pdf> accessed on 20 September 2017

6 Mineral Policy of Uttar Pradesh, 2004, issued vide Government Order No. 1206/77-5-2003-8/(2003)/95 TC, Lucknow, dated 28.02.2004

Table 7: Regional Variations and Capacity-wise Rates of Royalty on Sand in UP

Capacity of Kiln (based on number of <i>paayas</i>)	Royalty rate in Category A (Shetriya Utpadan Shamta/Regional Production Capacity)	Royalty Rate in Category B	Royalty Rate in Category C
47	98,100	89,100	80,100
28	63,900	54,900	45,900
22	53,100	44,100	35,100
15	40,500	31,500	22,500
Mathura lies in the 'A' zone			

Source: *Int bhatton ki mitti ki royalty ki samadhan yojana; letter no. vidhi-1(3)-intbhata; sama.yo.-(2008-09)/278/vanijyakar*⁷

Bhanu Prakash Varshney continues to add that the sales tax that brick kilns in Haryana pay are much lower than that in UP, although in both places the respective state governments have enforced the Samadhan scheme. Kiln owners are under a Composition scheme (also known as Samadhan Yojana in the state), which includes tax on sale and import duty on any other raw material like coal. The rates are fixed based on the number of *paayas* in the kilns. In this scheme, the incentives offered to brick-kiln entrepreneurs are that there will be no accountability to the taxation department for getting the sales and related records scrutinised, and there will be no periodic inspections conducted by the department of commercial tax. These incentives are not given to owners who do not opt for the scheme.

In a discussion with a Deputy Commissioner, Commercial Tax, Govt of UP, the officer shared that almost 70–80% brick kilns have been covered under the Composition/Samadhan scheme. The disincentives for not being a part of the scheme are so high that the brick-kiln owner is forced to take up Samadhan (unit-wise or brick-wise taxation is complicated since the unit damage is very high in the kilns in every stage of production).

7 http://www.ntnonline.net/Uttar_Pradesh/Circulars/278_09.pdf accessed on 20 September 2017

8 http://www.ntnonline.net/Uttar_Pradesh/Circulars/1011074_2011.pdf accessed on 20 September 2017

Table 8: Samadhan Rates for Excise Tax on Brick Kilns in Haryana

Capacity of Kiln	Category	Lump-sum Amount Payable as Tax
Kiln with capacity of more than 33 ghoris	+A	309,120 plus 10,765 per additional ghoris above 33 ghoris
Kiln with capacity of 28–33 ghoris	A	309,120
Kiln with capacity of 22–27 ghoris	B	241,500
Kiln with capacity of 22 ghoris	C	193,200
Kilns not fired, not exceeded 5 lakh bricks of all categories	D	48,300

Source: Haryana Government Excise and Tax Department, Notification No. Web/5/H.A. 6/2003/S.60/2011 dated 28 December 2011

Table 9: Samadhan Rates for Taxation on Brick Kilns in UP

Capacity of Kiln	Samadhan Amount, VAT 2015–16 (for non-high draught kiln)	Samadhan Amount for Entry Tax for Coal (for non-high draught kiln)
33 <i>paayas</i>	1,555,100	155,600
28	1,065,300	106,600
22	530,600	53,100
15	179,600	18,000

Source: Letter no. vidhi-1 (3)-int bhata; sama. yo.-(2015-16)/1999/1516050/vanijyakar; dated 02 December 2015, Office of the Commissioner, Commercial Tax, government of Uttar Pradesh⁸

Table 10: Comparative Analysis of Differential Rates of Taxation under Samadhan in Haryana and UP

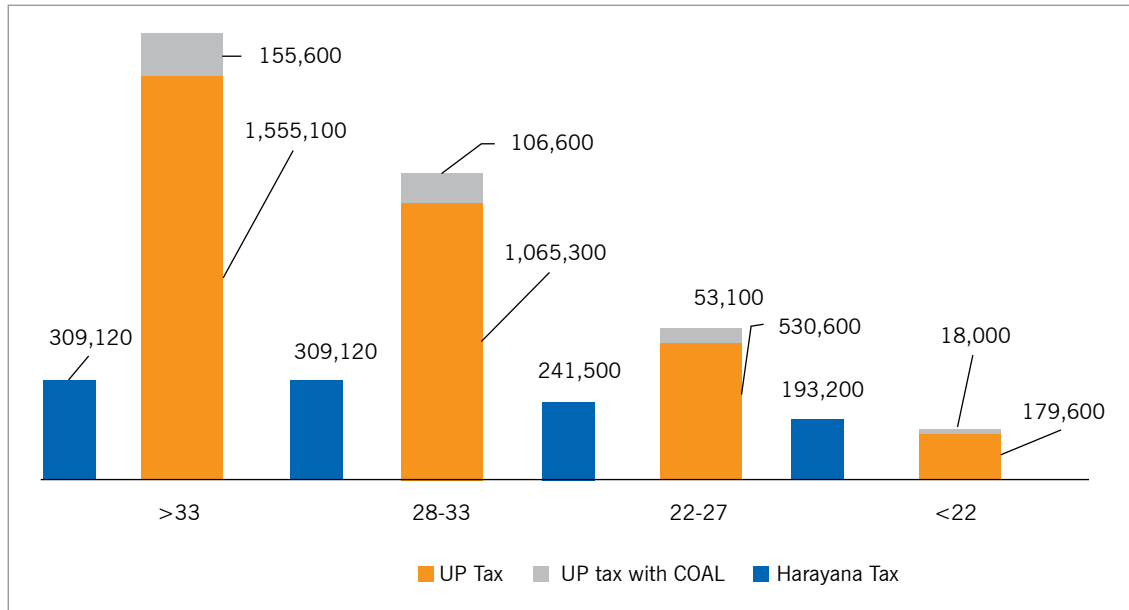
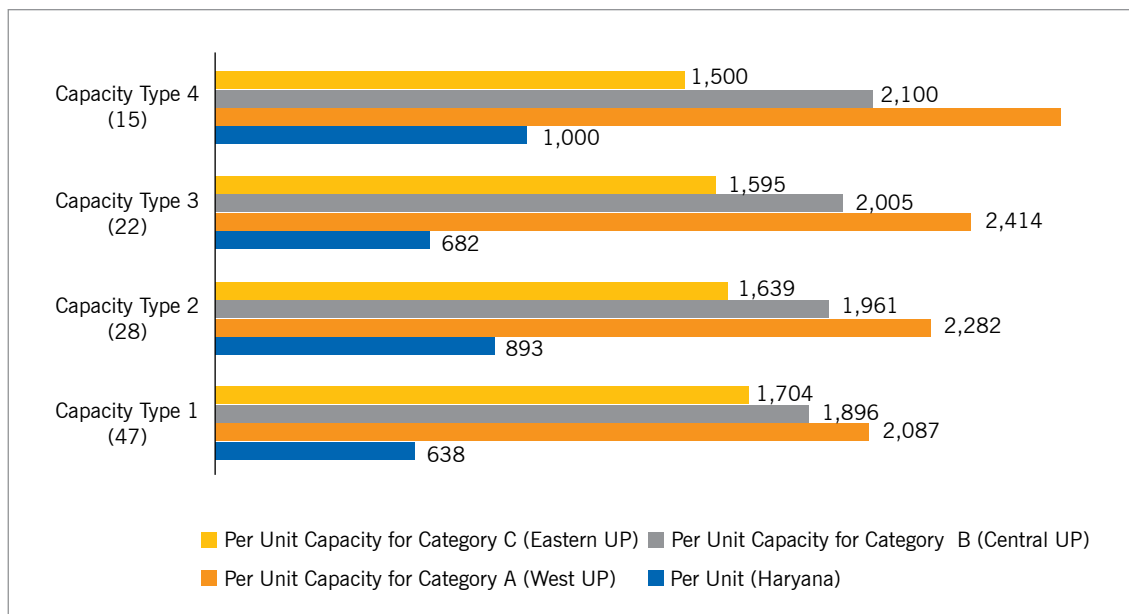


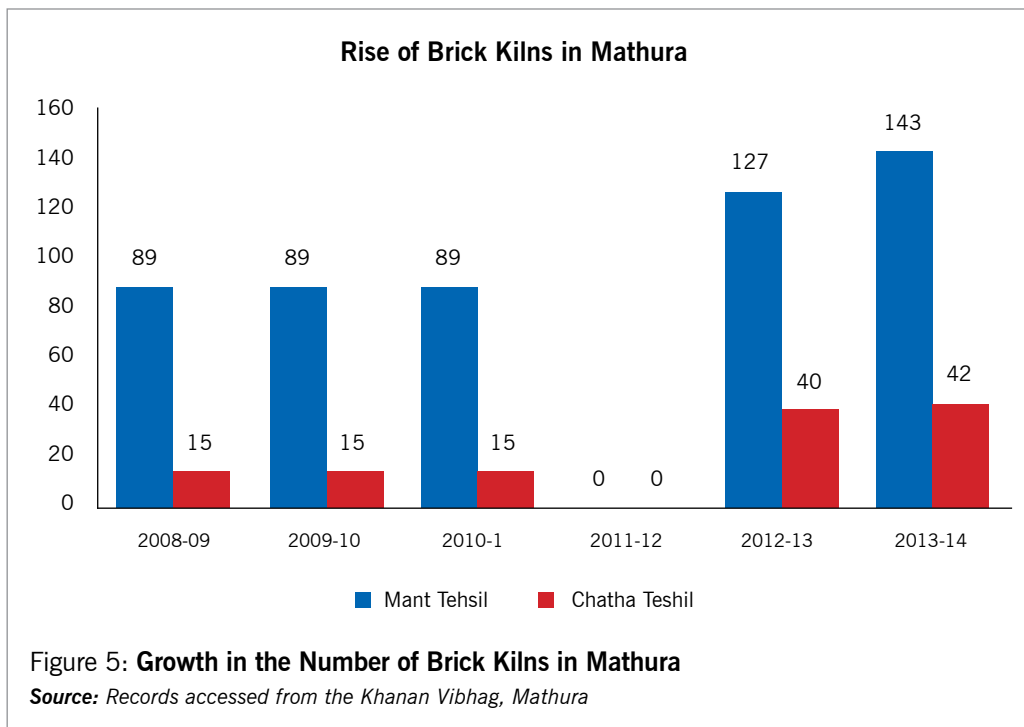
Table 11: Comparative Table Showing Variations in Samadhan Rates of Royalty on Sand in Haryana and UP



2.2 (A1.5) Impact of Raw Material on Brick Production and Prices

In the same market, besides bricks from areas in Mathura and Haryana, a large number of bricks is also supplied from Rajasthan, particularly from Bharatpur and its adjoining districts. Ramesh Sharma, an operator in the *mandi*, points

out that the quality of bricks from Rajasthan is not good as the clay used for brickmaking is very sandy. Though bricks from Rajasthan travel a distance (as parts of Rajasthan adjoining Mathura also fall under TTZ and Bharatpur Bird Sanctuary zone, in which coal/coke-based industries are prohibited), it is competitive to sell them in UP because of the abundantly



available *turi*, a mustard-crop residue. Mustard-crop residue is the dominant biomass used in the brick kilns in Rajasthan, accounting for an estimated 80%.⁹

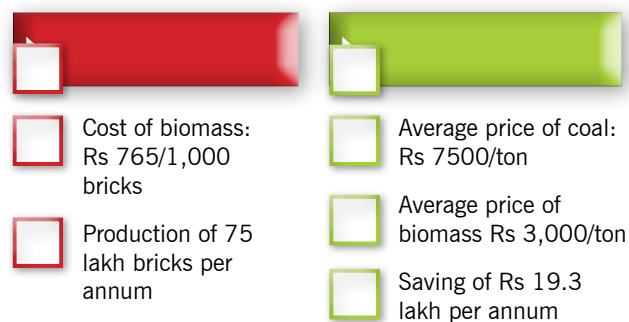
In a study report on ‘Use of Biomass in Brick Kilns’ by Akshay Urja (under the Ministry of New and Renewable Energy) in 2013, the cost advantage to a kiln entrepreneur for using biomass over coal has been exemplified:

The coal consumption in a traditional FCBTK is 136.4 kg of coal per 1,000 bricks and the cost of coal is estimated at Rs 1,022/1,000 bricks (coal rate @ Rs 7,500/ton in Jaipur). The cost of biomass is Rs 765/1,000 bricks, with an average price of biomass @ Rs 3,000/ton. With a production of 75 lakh bricks per year there is a saving of nearly Rs 19.3 lakh per annum.

In the research area, all the kilns use *turi* as a fuel since the Supreme Court judgement of 1996 banned coal/coke-based industries in the TTZ.

Sanjeev, a brick-kiln owner who established his kiln in the year 2000, says that because of abundant supply of *turi*

Cost of coal: Rs 1,022 / 1,000 bricks



from Rajasthan, many *bhattas* have opened. Bhanu Prakash Varshney, another brick owner and a native of Mant tehsil, has inherited the brick kiln from his father. He recalls that at the time when his father laid the brick kiln, there were three kilns in Mant and four in Surir. According to him, over the last decade, with increased urbanisation in Mathura the demand for bricks has escalated and as a result hundreds of kilns have mushroomed. The association has been persuading the kiln owners not to manufacture in excess as prices are

⁹ Rajasthan is one of the largest producers of mustard seed with an estimated production of 2.7 million tonnes per year (45% of the nation's production). Therefore, mustard-crop residue is abundantly available to be used in the brick-kiln industry. Verma and Uppal (2013), ‘Use of biomass in brick kilns’; accessed from <http://mnre.gov.in/file-manager/akshay-urja/january-february-2013/EN/24-27.pdf>

plummeting consequently. Sanjeev quotes that the bricks that can be sold for Rs 5,000/1,000 have to be sold for as less than Rs 4,200/1,000 because of the excessive supply. But the easy and cheaper availability of fuel along with high demand for bricks has been a huge incentive for brick kilns to be set up in the region.

The Figure 5 shows the rapid rise in the brick-kiln industry in the region.

2.2 (A1.6) Dual Market for Bricks

The Brick Kiln Association of Mathura clearly rates the *mandi* as the biggest buyer, followed by real estate developers and then government agencies. The *mandi* only caters to the local market and the buyers are those who cannot afford a high price. Big players directly purchase large volumes at cheap rate and thereby keep overall prices very low.

In an interview with Shekhar Aggarwal, director of Shri Group, a realty firm, Aggarwal states that *“although bricks constitute 50% of the total raw material for construction besides steel and cement, yet it is the cheapest. Prices of all other materials have increased significantly over the last few years but for bricks the increase has been very insignificant – from Rs 3/brick in 2013 to Rs 4/brick in 2017. There are no intermediaries in the supply chain and there is direct procurement of bricks from the kilns by the real estate developers. The brick-kiln owners are very unorganised owing to the rural nature of the brick-kiln industry. Most owners are the villagers themselves.”*

“Our demand for bricks is met from Surir. There is enough production of bricks from Surir and hence we do not have to inform the entrepreneurs of our need for bricks or of any upcoming project. To quote an example from our most recent project, we have built 3,000 residential units on a 35-acre plot which required 30 lakh bricks for the construction of houses itself. Another 20 lakh was required for development of boundary walls, common space and other utilities. The total demand for bricks in this project was 50 lakh, which was met from Surir,” Aggarwal narrates.

Aggarwal identifies two distinct phases of real estate development in the region: first phase was in 2001–2007 and the second phase in 2008–2013.

He states: *“Till 2013, real estate development was at its peak*

in Mathura as this period saw a 70–110% increase in property prices per annum. But with the announcement of Government policy on circle rates and with restrictions on cash transactions while buying property, the investors withdrew. With the demonetisation move in November 2016 and the RERA in February–March 2017, the entire construction industry has received a huge setback.”

Aggarwal points out that *“the preference for using traditional clay-fired bricks as a raw material in construction is now gradually replaced with aerated blocks and bricks made of fly ash. They will lower the market for bricks by 40% in the near future. The advantages for using AAC (autoclaved aerated concrete) blocks is that they have better and uniform finishing and helps in structural design; besides, it is easier to lay these blocks during construction (the laying of blocks is also automated). Construction of traditional bricks involves a lot of plastering besides high cost of skilled labour for the task.”*

Sonal Kumar of Greentech Knowledge Solutions points out that the ACC blocks are fast gaining popularity as a raw material in construction for the following reasons:

- There is no uniformity in the quality of traditional bricks, as they are procured from multiple entrepreneurs.
- The ACC blocks have high thermal insulation and are bigger in size and low in density. The cost of construction is much lower as the mortar required is less, and labour requirement is less and can be sourced from a single manufacturer. The real estate projects will take lesser time for completion, bringing down the cost of construction too.

Sonal adds that 65% of demand for bricks is from rural areas, as the houses built here have walls that are load-bearing, for which traditional bricks are required. The rest 35% demand is from urban areas. Since the structures of buildings nowadays are column-based, the walls are no longer load-bearing but serve as partition walls.

Shuchi Verma and Jai Uppal in their report have reiterated that with the column-based structures of buildings, biomass bricks are gaining more acceptance. There is direct intervention by corporates in Surir. Corporates bring prices down and force manufacturers to adopt inefficient firing. It brings down the quality of bricks and the price.

2.2 (B) Understanding the Supply Chain of Bricks in Fatehpur

2.2 (B1) Geographical Setting of Fatehpur

The district, part of the Allahabad Division, is situated along the lower banks of the Ganga-Yamuna doab. In the north-west, this district is bound by Kanpur and in the south-east by Allahabad. To the north beyond the Ganga, lie the districts of Unnao, Rae Bareilly and parts of Pratapgarh. In the south, the Yamuna separates it from Banda and Hamirpur. The geology of the region, composed mainly of Gangetic alluvium, provides a rich resource base for building materials. Sand from the banks of Ganga, gravel (moram) from the Yamuna, and clays, silty clays in the alluvium make it suitable for brick manufacturing.¹⁰

2.2 (B1.2) Demand for Bricks from Fatehpur

In the south, Fatehpur borders the Bundelkhand region of Mahoba, Banda and Chitrakoot, and hence the demand for bricks for construction in the Bundelkhand region is met from Fatehpur. There are about 273 brick kilns in Fatehpur as compared to 3 kilns in Banda, 4 in Chitrakoot, and 1 in Mahoba.¹¹

In 2006, Fatehpur and the districts mentioned above in the Bundelkhand region received grants from the Ministry of Panchayati Raj under the Backward Region Grants Fund (BRGF) to meet the critical gaps in local infrastructure and other development requirements not met adequately through the existing inflows.¹²

A 2011 report on the *Brief Industrial Profile of Fatehpur District UP* by the Ministry of Micro, Small and Medium Enterprises, Government of India,¹³ identifies some of the following micro and small enterprises in the descending order of number of units registered and employment:

- Repairing and servicing
- Agro-based
- Wood/wood-based furniture
- Readymade garments and embroidery
- Leather-based

This region has no large-scale industries or public sector undertakings. The industrial growth trend is at 3.1% annually for micro and small-scale industries, and 0.34% for large and medium-scale industries. However, brick kiln finds a mention in the vendorisation/ancillarisation of industries.¹⁴

The owners of brick kilns in Fatehpur inform that they meet the demands for bricks from the neighbouring districts and in exchange procure crushed stones from the stone quarries of Bundelkhand. The tractors that cart bricks to this region find it viable to operate as they then carry back crushed stones for the Fatehpur construction industry. The brick-kiln industry caters hugely to the rural demand for housing and other infrastructural development (building of educational institutions and factories and in industrial areas) both within the district and outside it. For long, the owners recall, except for a rise in demand for bricks for infrastructure and housing (particularly those under Indira Awaas Yojana), there has not been much change. Though real estate development has not yet reached the district the way it is seen to be rising in the nearby urban centres of Kanpur, Allahabad and Lucknow, the district is self-sufficient to meet its demand in both urban and rural areas.



Figure 6: Map Showing Fatehpur and Its Adjacent Districts to which Bricks Are Supplied

10 <http://dcmsme.gov.in/dips/DIP%20Fatehpur.pdf> retrieved on 26 November 2016.

11 *Pradesh mein chini hitjan padwarint bhatton kiudyantantstithi*, accessed from http://uppcb.com/status_brick_klin.htm

12 <http://www.panchayat.gov.in/documents/10198/1136810/USQ%20NO.2482%20Dated%2014.12.06.pdf>.

13 <http://dcmsme.gov.in/dips/DIP%20Fatehpur.pdf>.

14 *Ibid.*

The kilns are based on coal and the owners say that they are able to get better price for their bricks as they are able to produce more Grade 1 bricks than those produced based on biomass kilns. They inform that on an average 50% output of bricks is *avval* (1st grade) followed by 10% *seedha* (2nd grade), 15% *kadapeela/seedhakanjar* (3rd grade) and the remaining 25% being *tedhakanjar* (4th grade) and 15% *godiya* (last grade).

These bricks were sold at the following rates in the year 2015–16:

Table 12: Rates at which various qualities of Bricks are Sold

Quality of Bricks	Rate per 1,000 Bricks (in Rs), 2016 December
1st	5,500
2nd	4,800
3rd	4,500
4th	3,500
5th	3,000

Mahendra Bahadur Singh, a brick-kiln owner from Fatehpur, points out that two years back the *avval* bricks were sold at Rs 7,200–7,500/1,000; this included the cost of loading and unloading of bricks on tractors. This year, with the High Court of Allahabad continuing its ban on mining of *maurang/gittior* sand in the state, the brick kilns in Fatehpur produced less bricks. A result of the continuation of the ban was an increase in the rates of *maurang* and subsequent escalation of cost of construction, although this year the kilns also had a delayed start due to demonetisation. Those brick-kiln owners who had previous years' stock made fewer bricks (in the range of 20–40 lakh) in the season 2016–17.

He points out that brick kilns in Bahua block in Fatehpur, catering exclusively to Banda, have been seen to switch between biomass and coal. Often the demand from Bahua is for the *peela* variety, which is less costly. The cost difference between a *turi*-based kiln and a coal-based one is as high as 30%–40%. “If a customer directly comes to a kiln to buy bricks and if he sees *turi* is being used, he may not buy. But if bricks are to be transported far away, owners do not hesitate to change the fuel to maximise profits,” says Singh. “Since we cater to the more urban customers in our vicinity and members of the brick-kiln union have decided to not sell bricks below Rs 6,000/1,000 bricks, we stick to coal.”

The 1st-class bricks are in high demand for construction of houses, industrial and social infrastructure, while the 4th-class bricks are procured by the block/village panchayats for construction and repair of roads. The last quality is required for the maintenance of the *bhattas* themselves.

The UPPCB report on status of brick kilns in UP points out that out of 273 identified kilns only 66 have obtained permission from the board to function.

According to Pappu Singh, proprietor of Krishna Brick Fields in Chitnapur, Bhitaura block, most kilns in the region are more than 35–40 years old. Earlier, this region was dotted with clamp kilns; the shift to FCBTK has happened over the last two decades.

Unlike in Surir, there are no corporates that influence the market in a manner to bring intense competition, consequently lowering the price of bricks.

2.3 Understanding the Regional Labour Market in Brick Kilns of Uttar Pradesh

Studies have shown that UP serves as both a source and a destination state for the brick-kiln workers. Workers from the state out-migrate to work in kilns of Punjab, Gujarat, Rajasthan, and Haryana, and similarly a large number of workers move in from the nearby states of Jharkhand, Bihar and Chhattisgarh in search of livelihood in the kilns. Significant streams that are emerging through this study are the inter- and intra-state migration into the kilns in UP and in some cases workers residing locally and commuting daily to work in the kilns.

“In my kiln I use the *band sancha*; that is to say, I get Bihari workers for moulding the bricks. Though the average bricks produced by a *band sancha* in a day during winters is between 800 and 900, much less than 1,500 bricks are moulded by workers in UP; the quality of bricks of a Bihari is far superior than that of the *desi sancha* (referred to as workers from UP). They knead the clay well, moisten the clay often while moulding, and press the mould in such a way that the green brick is intact. This gives even-shaped and sharp-edged bricks that are compact too. The Bihari bricks sell for Rs 200–300 more than that made by the locals,” narrates Rajkumar, a brick-kiln owner in Surir.

Brick Kilns in Mathura and Fatehpur: Comparison on Select Indicators

Indicators	Mathura	Fatehpur
No. of kilns	In 2 blocks (Chattha and Mat) 191 kilns in the year 2016 243 kilns in the year 2017	In 13 blocks 273 kilns in the year 2016 273 kilns in the year 2017
Raw material used for fuel	Mustard husk (<i>turi</i>)	Coal
Royalty on sand	This region is in Category A (royalty for a 47 <i>paaya</i> kiln is Rs 98,100)	This region is in Category B (royalty for a 47 <i>paaya</i> kiln is Rs 89,100)
Entry of newer kilns	Spurt in the entry of newer kilns since 2012	Kilns are functioning for a fairly long time (average 35–40 years)
Competition	Fierce competition from kilns in neighbouring states of Haryana and Rajasthan to meet the demand in the region	Kilns here meet the demand for bricks in the region. Not much competition from neighbouring districts
Buyers of bricks	<ul style="list-style-type: none"> • Individuals with tractors who buy bricks from kilns and sell them in brick market (locally called <i>mandi</i>) • Individuals with small projects • Real estate developers 	<ul style="list-style-type: none"> • Tractor operators from Banda • Individuals with small projects • Panchayat bodies
Rates at which 1st-quality bricks sold	Rs 4,200/1,000 bricks	Rs 5,500/1,000 bricks
Price levels of bricks	Prices of bricks are pushed low due to intense competition from neighbouring states and very high demand for bricks	Association is powerful enough to keep the prices of bricks in check
Worker deployment	Migrant workers (mostly SC) through contractors	Local workers (SC and OBC); directly, without any contractor
Contractor commission (for moulding)	Rs 100–Rs 150/1,000 bricks	None
Average wage for moulders	Rs 420/1,000 bricks	Rs 500/1,000 bricks
Per-annum wage hike (average)	Rs 10–Rs 20/1,000 bricks	Rs 50/1,000 bricks

When asked why is it that the Bihari workers mould so differently, the owner replies, “*These people do not want to earn money, hence they work slow. Migrant workers work best in the destination. The locals get back home, whereas this is home for migrants. They keep taking advance from their contractor throughout the year to meet even the most basic of*

their requirements. They quite enjoy working in UP as there is enough variety of food they have access to, particularly wheat and vegetables, as compared to their village, where only rice is available. Moreover, it is the responsibility of the employers (the brick-kiln owners) to take care of expenses related to their travel, firewood, medicines, equipment, and blanket for winters, and

cylinders to light lamps to work at night in summers. Besides the wages, which their contractor fixes at Rs 615/1,000 bricks, we spend another Rs 1,000 per person per month.”

2.3 (A) At the source

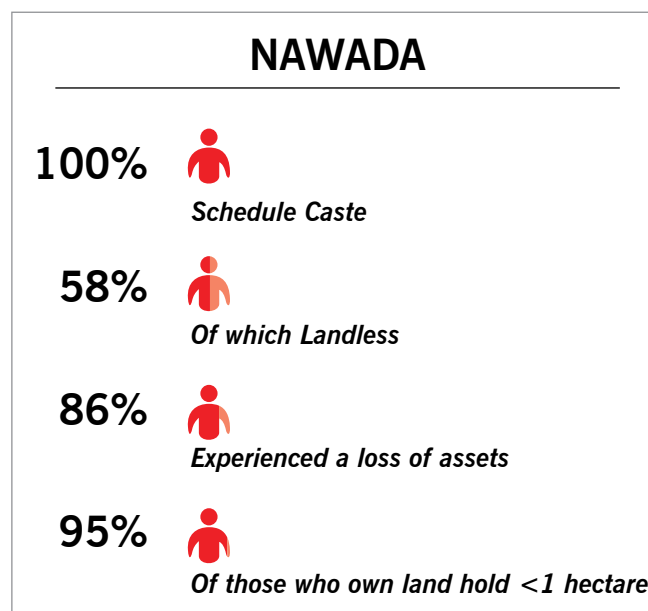
2.3 (A1) Reasons for Choosing Work in Brick Kilns

According to Gupta, workers in the brick kiln constitute one of the poorest and weakest sections of the rural society. They are essentially agricultural labourers, migrating from one state to another in search of employment in brick kilns during the lean period in agriculture between October and middle of June (Gupta 2003).

The *band sanchas*,¹⁵ a term often referred to in the research location in Western UP, for the migrant *pathai* (moulders) workers, particularly those from Bihar, report to the kilns in October and stay on till before the rain arrives in June in the destination area. The brick-kiln owners refer to this period as workers staying from *Dussehra* (a Hindu festival celebrated towards end-September) to *Ganga Dussehra* (a Hindu festival celebrated in the northern region along the banks of the river Ganga and Yamuna in mid-June).

The migration of the Bihari *pathai* worker is essentially a distressed phenomenon as no work is available to them inside or outside agriculture in and around their village. From the discussions, it emerged that a large number of *pathai* workers in Mathura were from the district Nawada in Bihar. The *pathai* workers belong to the Manjhi community, a Scheduled Caste. These workers do not have any other means of livelihood, nor do they possess any assets at the source. The long period of absence from the source village further prevents them from accessing any government entitlement or from keeping/buying any asset including livestock. Since the brick kilns offer them employment and accommodation for eight to nine months in a year, they travel long distances each year with their families to work there. Because of their vulnerabilities, these workers continue to be at the bottom of the village economy.

Table 13: Brief profile of workers interviewed from Nawada, Bihar



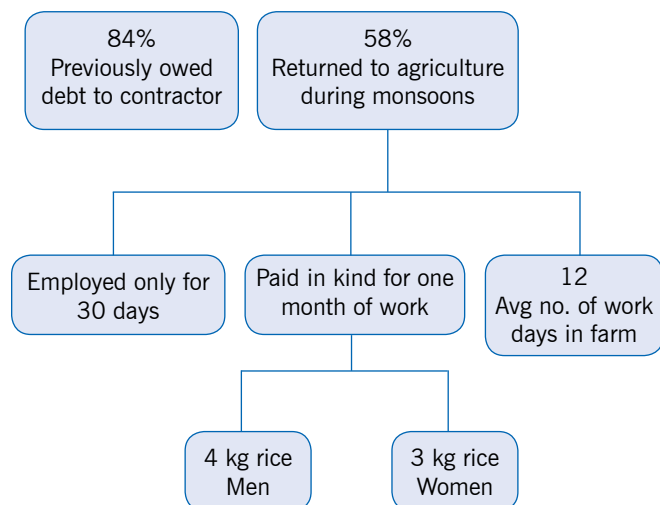
From the survey of 20 *pathai* workers from Bihar across three kilns in Mathura, it emerges that 84% of the workers have cited previous debt owed to the contractor as the most dominating reason for working in the kiln. Only 58% workers have reported to work as agricultural labour when they return during the rainy season to their village. The maximum days one has found work in agriculture, from amongst those interviewed, is 30 days. Payments are mostly made in kind, usually in grains. Differential payments are made to males and females.

Adheen Manjhi says: “There is no work in the village. You are made to work but without payment. There is *dandaraaj* (the rule of force).”

Bhikhari Manjhi, a *pathai* worker of about 55 years of age from Naridhi village in Nawada district of Bihar, has been working in the brick kilns since a very young age. *We come to the kiln as there are no other options for livelihood. We do not get work anywhere; we do not have land for agriculture. We never owned any asset. We do not earn enough from the kilns, to buy any asset. It suffices only our food requirements.*

¹⁵ Technically, *sancha* refers to a mould and the difference between *khula* and *band* is that the former is a foldable mould and the latter is a fixed mould. But over the years, the word *sanchas* have come to connote *pathai* workers. *Desi/khulla* are the local workers (intra-state, who come from within UP from a radius of 50 km) and the *band sanchas* are the interstate migrant workers. A pair of a male and a female makes one *sancha*. In other parts of UP, this pair is referred to as *jodijutti*.

Figure 7: Conditions at the Source, from the Interviews of Bihari Migrant *Pathai* Workers



People from our village go only to the kilns. Till 5–10 years back, there used to be some work in the farm, but now except for a few days in the sowing season there is not enough work for us. Overall there have been frequent natural calamities like floods in our region due to which farming has been reduced. Moreover, farmers are now using increased mechanisation – like harvesters for paddy and wheat. Only during the sowing period in bhadon (August–September) the farmer gives one member of the family work for 5–10 days either at Rs 200/day or in kind against a kg of rice. During the harvesting period we are in the kilns. When we return home after the brick-kiln season in saawan (monsoon period between July and August), the MNREGA work stops in the village due to the rains. The village pradhan (headman) will take his own men to work. We have never worked in MNREGA. Since we are home for 2–3 months, we do not keep livestock. Who will look after them when we migrate?

But migration to the brick kilns may not necessarily be distressed. Migration may also be undertaken for supplementing existing earnings and generating a surplus over subsistence (Srivastava 1998). The brick-kiln workers may not necessarily be landless and be migrating over long distances for long periods of absence. In the same research setting in Mathura, brick-kiln owners have been found to deploy *desi/khulla sanchas*. These *pathai* workers are sourced from the neighbouring districts of Mathura, namely Sambhal, Mainpuri and Kannauj, amongst others. They do not travel for more than 50–60 km to work in the brick kilns. Despite brick

kilns being their mainstay occupation, they also own small pieces of agricultural land in their source village and grow crops for self-sufficiency and also own some livestock.

“The last few years there has been an increased incidence of droughts and floods, because of which our crops are failing,” says Prempal, a moulder from Sambhal district. *“We then have to take advance from the brick-kiln contractor in our village to meet our requirements.”*

During the sowing and harvest season, these *pathai* workers from the neighbouring districts get back to their source village for a very short period of time. The *pathai* worker family migrates in pairs but may or may not migrate with their children or the elderly. Usually children attending schools are left behind in the source and are in the care of the elderly.

In Bhitaura block of Fatehpur, Eastern UP, we found that most of the *pathai* workers were from the local areas commuting to the brick kilns daily from their villages. Of the 50 *pathai* workers surveyed from 9 kilns, 58% were from the Scheduled Caste and 42% from Other Backward Castes. These *pathai* workers have a fixed kiln to which they travel daily during the brickmaking season.

In Fatehpur, of those surveyed, 78% *pathai* workers said it was the lack of alternative opportunities in the village that drove them to take work in brick kilns; 25% said it was the availability of a lump-sum amount from the kilns.

Out of the total *pathai* workers surveyed in Fatehpur, 67% work as casual labour in the farm and non-farm sector throughout the year, and 28% are engaged in farming, either on their own land or in share cropping. It also emerged that 30% of the *pathai* workers worked under MNREGA in the previous year (2015). The workers lament that work under MNREGA in their village is not a regular option. It is available only in some years and even when it is, the work is not for more than 15–20 days in a year. Many a times, the wages are delayed. *“In the casual farm and non-farm work, because of differential wages paid to women, the income does not suffice even if all members of the family work,”* says Mukesh Lal, a *pathai* worker in Hussainganj, Fatehpur.

The *pathai* workers surveyed in this region either travel on foot or they use bicycle for daily commuting. The kilns in this region do not source workers from outside the district.

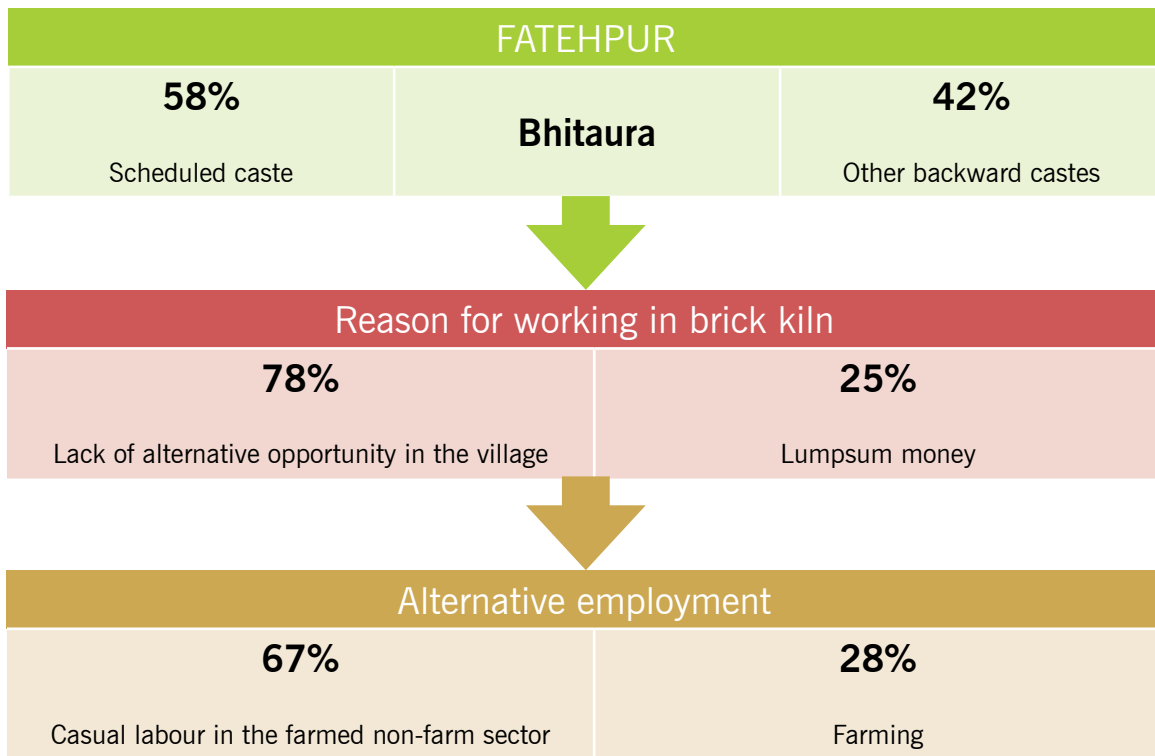


Figure 8: **Brief Profile of Local Workers, Bhitaura**

2.3 (A2) Surir: A Hub for Migrant Workers

The seasonal migration of *pathai* workers from the rural districts from within and outside the state, as in the case of the *pathai* workers in the kilns of Surir, is due not only to the concentration of kilns but also to an uneven growth in the market for bricks. The capital and capitalists have been strong factors in developing such mechanisms that can source cheap labour over long distances. Back in the source area, the stagnancy of agriculture, floods or droughts, and low impact of poverty-alleviation programmes in providing employment nearer homes all account for migration (Srivastava 1998).

In Surir, *pathai* labour in migration, however, is not due to scarcity or shortage of local *pathai* labour in the region, as there is surplus labour. As Srivastava points out, migration to substitute local labour is more of a labour-control strategy within the overall context of capital accumulation. Migrant labour is exceptionally vulnerable and more easily exploited at the destination. Their labour is easier to control and it is easier to extract labour from them under arduous conditions. The supply of labour remains elastic and migrants can work for long and flexible hours. The migratory labour is used as a force to suppress and replace the local available labour when

they assert their position against the social and economic exploitation/oppression and organise a strike protest or cease work (Gill 1998).

Jhammal, a labour contractor of *pathai* workers for the last 33 years, is from Surir. He has been mobilising *pathai* workers from Agra, Aligarh and Mathura for kilns in Haryana. He says that piece-rate wage for local *pathai* workers is less and these workers are not given the same facilities as are provided to the migrant *pathais*. Facilities include firewood, kerosene oil (for lamps), and cost for medical care and medicines. *In Surir, because of the sheer number of kilns, the wages given to workers are below the court rates (he means minimum wages). The brick-kiln owners' union will decide the wages for labour between July and September. The practice is, once the union decides the wages, it is expected that no brick-kiln owner will give wage over the decided rate.*

Further, it is easy to exert control over Bihari pathai workers. Being outsiders, they seldom raise voice if the munim enters less production in their records. Unlike the UP contractors, their contractor rarely visits them, so they do not raise any dispute with the owner. Even if they run away, the owners will catch

them at the railway station and beat them up. On the other hand, owners are scared of the local workers because they fear the workers will unionise and will also have access to the police station. Getting workers from Bihar has been a relatively recent trend, picking up over the last 15 years. Earlier, when there were fewer kilns, owners recruited local workers.

As Gill points out, at the destination the local authorities are biased against migrants, which places the workers at a disadvantage in their struggle against injustice and exploitation. The *pathai* workers from Bihar are strictly monitored by the brick-kiln owner and his staff (management); they are seldom allowed to leave the kiln except on account of a medical emergency or on the half day that they get from work once in a week. Their access to government institutions and facilities like education and healthcare is controlled by the kiln owner.

Deepa Pradhan, a brick-kiln owner and also the pradhan of his village, says that *in general the local workers are non-reliable. They take advance from one kiln but will go to some other kiln for work. It is the local worker who will always put allegations of molestation, abuse, excess work and bondage on the owners to escape from repaying their debt. They have easy access to their leaders and the local police.*

The brick-kiln industry in the research area in Fatehpur is reasonably able to forecast the demand for bricks in the region. Based on the forecasted need, the quantum of production of bricks may vary. Hiring local workers for *pathai* helps kiln owners in adjusting the quantum of production according to the varying demand for bricks in a particular year.

2.3(A3) Reasons for Family Migration to the Kilns

The presence of the entire family at the work site is seen more amongst the moulders. Women and children migrate together with the males so as to make their labour power maximally productive (Bremner 1996). Interestingly, 100% workers surveyed in both the research locations have been found to be working in pairs. The pair consists of a male and a female. The work is divided such that the male is required to dig the earth for the clay, water the clay, mix and knead it well. The females are required to fill in the mould and turn it. Many respondents including *pathai* workers and *munims* were asked if two females could pair for work at the kiln. As per the responses received, mostly it is only the men who can take up the work of digging up of clay.

Surat Pal of village Mustaffapur, district Fatehpur, who has been a moulder since the last 15 years, says that women mould the maximum bricks while men are busy getting clay, making pitch, and creating water channels, amongst others. Likewise, Chottelal Manjhia, a *pathai* worker from Bihar working in Mat in Mathura with his family of 6 (the eldest son of age 6 and the youngest child an infant), narrates that in winters the husband and wife together can mould 800 to 900 bricks in a day. But ever since his wife has fallen ill, and is not able to mould with him, he is able to take the output only to 600 bricks a day.

The moulders are paid on piece rate – that is, payment is made for every 1,000 bricks produced. As payment is made on the basis of number of bricks produced, the entire family is involved as a working unit, even if payment is made only to the male head. Back in the source in Bihar, the advance amount extended to a *pathai* worker is also determined by the number of people in his family who will be engaged in moulding at the brick kiln. At the destination, likewise, the number of moulds a family takes for moulding is also one of the determining factors of the rate of the weekly payments the head of the household will receive as *kharchi*.

Bhikari Manjhi says: “*Since we are home for 2 to 3 months, we do not keep livestock. Who will look after them when we migrate? Our children migrate with us. We earn and eat. If we send our children to school, what will we eat?*”

In Fatehpur, 24% workers have acknowledged that their children work besides them in the *pathai* area. Children are engaged in various work – turning the bricks to dry, lining up and stacking the dried bricks, and in *palledari* (as loaders) on tractors for bricks and coal.

2.3 (A4) Employment Status of Workers

As Gupta has pointed out, though the brick-kiln workers work seasonally, a majority have spent a good many years working as *pathai* workers (in Fatehpur *pathai* workers spent more than 10 years in the same kiln). For the economy as a whole, brick-kiln workers have contributed steadily to the industry but the industry has not recognised them as workers of either permanent or temporary status.

In Fatehpur, of those surveyed only 15% *pathai* workers have changed their brick kiln once in three years, while the rest have been working in the same kiln. It also emerges that 83% of the intra-state workers in Surir have chosen the same kiln over the last three years and 15% have changed their contractor.

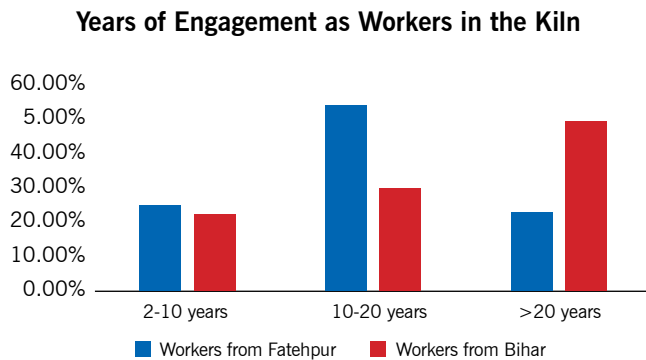


Figure 9: **Number of Years of Engagement in the Kiln**

None of the Bihari *pathai* workers have gone to the same kiln in the last three years. The *thekedar*/contractor has been the same in the last three years for 90% workers, but each year they are moved from one kiln to the other, from one district to the other, and once in three years they have reported change in the destination state. This brings us to yet another important aspect of recruitment.

2.3 (B) Recruitment Process in the Brick Kilns

2.3 (B1) Recruitment Through the Contractor

There is a clear system for contractors operating in the brick-kiln industry of Surir. As an owner shares, *my kiln has a capacity of making 10 million bricks, for which I estimate a daily production of 80,000 green bricks, before we start the firing in January. To meet this requirement I need 50–60 pairs of pathai workers. We need to keep stock of additional bricks for losses due to rains, fog, etc. The workers do not work if it is very cold. We get the workers through a contractor. The contractor visits us every year in June–July. He is usually the muscleman at the source in Bihar. He mobilises workers through smaller contractors under him. He takes an advance at the rate of Rs 20,000/jodi/sancha (will consist of a male, a female and sometimes even a child) from us. Our transaction with him is based on trust; usually the contractor supplies labour to 7–8 brick-kiln owners together in the vicinity. That way the wage rates at which the workers are hired will remain largely uniform. We do not directly recruit the workers as there is more risk involved in the workers running away. At least with the contractors we are assured of a continuous supply of pathai workers.*

In brick kilns, while labour relations are located within the structure of the industry, the contractor acts as a proxy to the

principal owner and it is the contractor who is perceived as the employers of the workers (Gupta 2003). The issue of principal employer is diluted, as owners take no responsibility for the workforce in terms of breaking or making of a contract.

Deepa, another owner, is relieved about contracting out labour from the contractor, as he feels that in case of an enquiry by National Human Rights Commission the onus of debt bondage will be on the contractor, as the owners have no direct dealing with the workers.

The contractor's commission is fixed on the wage rates paid to the workers. As Raj Kumar Varshney was quoted earlier, the wage rate for a Bihari *sancha* is fixed at Rs 615/1,000 bricks with the contractor. However, our survey has found that the wages received by the Bihari *pathai* worker for the year 2016 is in the range of Rs 420–Rs 450/1,000 bricks. Calculations suggest that the commission the contractor takes on the worker from Bihar is Rs 165/1,000 bricks.

The lack of income opportunities for the landless and marginal *pathai* workers at the source in Bihar forces them into taking advance from the contractor. The contractor is one of the few whom the poorest people in the village can approach for obtaining credit, which they so desperately need in their struggle for survival and reproduction (Bremen 1996). The price they pay is the loss of any control over hiring out of their own labour power during the coming months.

The contractor has a very central role in the life of the worker from Bihar. He not only extends advances to the workers before the beginning of the brickmaking season, but also manages all logistics of transporting worker from the source to destination, supervises weekly payment and output per *sancha* remotely, and even settles the final payment of the worker at the end of the season.

The big contractors that the workers report to in Surir are from the upper caste and reside in the same or a neighbouring village. He is politically and economically influential too, with multiple businesses and trade in the village; he may also be holding a position in the local governance structure. The workers are routed through an intermediary channel of *sardars* to the contractors.

The contractor extends advance based on an estimate of the bricks that the worker and his family will be able to produce. About 90% of the workers have mentioned that the contractor

deducts 5,000 bricks on every 100,000 bricks produced by the worker at the end of the season towards the final payment.

The binding of 90% of the surveyed *pathai* workers from Bihar to the same *thekedar* for three years is due to their inability to return the advance; for the same period, a change in the destination state, district or brick kiln indicates the workers' indebtedness to the contractor. Two per cent have managed to clear off their debt to the contractor by borrowing from another contractor.

Our thekedar gives us advance on the basis of the number of people who will be doing pathai, at Rs 10,000/per person. This year I have taken Rs 60,000 as advance for my family as we will work on 3 sanchas this year. On being asked if the advance money is taken in one go, Bhikari replies, how can we take it all at one time! Expenditure for medicines, clothes, marriages and even food for the whole year is met from this amount. We take advance money in multiple instalments as and how the need arises: Rs 2000, Rs 3000, Rs 7000, Rs 10,000. We do not pay any monetary interest on the advance, but pay through our labour. The amount of hard work we put in is more than the interest. We have no choice of the region to which we migrate, and the place does not matter either, for we have to put in our labour. The thekedar decides our destination. (Shared by Bhikhari Manjhi from Nawada)

As Breman mentions, the contractors will necessarily have to be rooted in the same milieu as their catch. Only then are they able to assess the quality of the labour on offer, judge who is suitable for heavy work and who will submit to management's rules without creating problems. These considerations, according to Breman, explain why the contractors recruit principally in their own village and its direct neighbourhood (Breman 1996).

Some of the implications of not willing to continue to work after having taken an advance from the contractors can be serious. Workers inform that 100% interest will be charged on the advance amount taken, and this is besides the potential physical violence, assault and abuse by the contractor and his men.

Preman Manjhi, another moulder from Nawada in Bihar, says this year he did not want to come to the kiln. *Two years back I had fallen ill, and only last year was I able to repay the advance. But the contractor's men beat me up and forcefully gave me an advance.*

The extent of control that the contractor exercises remotely can be seen from this incident. Mamta from Bihar, working in a nearby kiln, lost her 10-month-old child at 2:00 am in the morning. It was a Monday, the day workers get a weekly off from afternoon onwards. The owner of the brick did not allow Mamta and her family to leave the kiln for cremating the child, till he heard from their contractor, Chunnu, in Bihar. The family required an advance of Rs 1,000–Rs 1,500 to meet the expenses of the funeral rites. It was only when Chunnu approved the amount to the owner that Mamta's family along with their relatives were allowed to leave.

According to Breman, the contractor shows utter deference towards the employers in his effort to build up a reputation of reliability – in terms of the required workers arriving at the agreed time, the migrants not running away during the season, and doing the work to full satisfaction. Good performance will be rewarded next time by the employer by allowing a bigger workforce and with more generous credit (Breman 1996).

Some owners in the region prefer to hire *pathai* workers from within the state. Mahadev Varshney is one of them. *My brick kiln is one of the oldest in the region. From 3 kilns till 15 years back, there are 300 now. Ever since Mathura has been put on the development map, the demand for bricks from Surir has increased tremendously. Recruiting workers from outside the state has become popular only over the last 8 to 9 years, ever since the spurt in demand for bricks. I paid a contractor from Patna an advance of Rs 500,000 for pathai labour but he did not show up. I lost my money and decided not to take such risks anymore. I continue to call the UP workers.*

The UP *pathai* workers are from the neighbouring districts of Mathura, namely Sambhal, Mainpuri and Kannauj, amongst others. Though brickmaking is their mainstay occupation, they also depend on own farming as their second livelihood option. They grow crops for self-sufficiency, and also have one or two milch animals. The point of contact between them and the brick-kiln owner is a contractor who is also a brick-kiln worker. The contractor is either a relative or someone from the same village. *We prefer coming to the same kiln every year due to familiarity with the owner. Change in kilns have been on occasions when the brick-kiln owner fudges with our settlement amount, shares Prempal, a moulder.*

Due to the fact that the industry is sited far from the point of recruitment, the owners feel vulnerable. To address this, some take recourse to appoint a worker contractor who mobilises

pathai workers from his own village, most of whom may be relatives. He is also of the same community as that of the *pathai* worker. This contractor too takes an advance from the owner and negotiates on wages, workplace conditions and period of payment between the worker and the employer, amongst other things. But unlike the situation of the Bihari *pathai* workers, these workers are able to directly communicate with the owner and the *munshi*.

2.3 (B2) Direct Recruitment

In Bhitaura block of Fatehpur, the *pathai* workers are directly recruited by the brick-kiln owners from the village. There are no middlemen/contractors between the workers and the kiln owners. However, this is not to say that there no contractors in Fatehpur, as the vast majority who choose to work in the kilns of Punjab are routed through contractors. The local brick-kiln workers take their advance directly from the owner. (Of the surveyed *pathai* workers, 71% have reportedly taken advance amount at one time.) Payments to the *pathai* workers are also done directly by the employers.

As mentioned, workers in the kilns of Bhitaura block, Fatehpur, are sourced from the nearby villages. We came across one *pathai* area¹⁶ of Om Brick Field, in village Rasoolpur, which had workers from the nearby block Ghazipur, district Fatehpur. These workers, like other migrant brick-kiln workers, are seasonal migrants who stay in the kiln for the period of work. Ramesh, a moulder, who also identifies himself as a *thekedar*, shares that the *munim* visits the village and distributes money as advance to the workers in the village. Ramesh is entrusted with keeping track of these workers (some 7 to 8 *pathai* workers in all) throughout, at the source and while at work. If a worker runs away, it will be Ramesh's responsibility to recover the advance money. Though Ramesh did not share how he gets remunerated for this task, his co-workers inform that there will be lesser deductions on his output of bricks as compared to others.

In this research area, 27% of the surveyed *pathai* workers say that they have not taken advance this year from the brick-kiln owner. Of the remaining who have taken advance this year, 2% had an earlier debt to repay. The workers take advance before the beginning of the brick-kiln season from the owner or the *munshi* directly.

Advance Taken (Rs) 2016

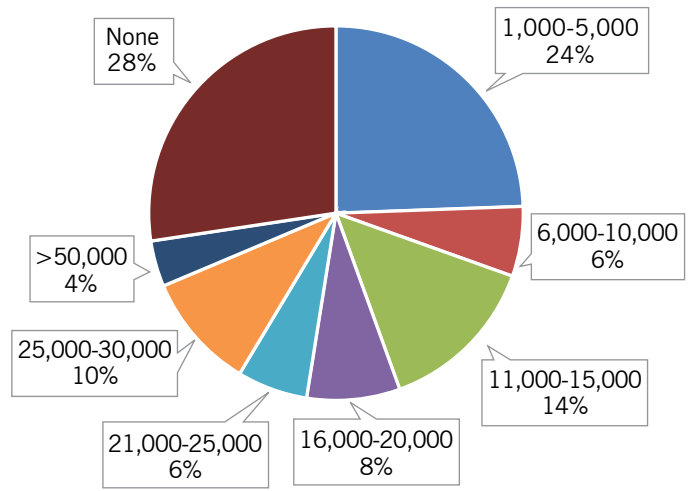


Figure 10: Advance Taken by Workers in Fatehpur

There is no intermediary between the *pathai* worker and the owner even while advancing money. There exists a familiarity between the owner and the worker. The *pathai* worker has worked in the same kiln for 10 years on an average. The owner along with his *munshi* visit the workers' village to call them for work. Even after the *pathai* work is over, the owner can hire the same *pathai* workers for stacking and sorting of the burnt bricks.

2.3 (C) At the Destination

2.3 (C1) Period of Stay at the Kiln

The period of stay at the brick kilns is markedly different for the migrant *pathai* workers in Surir compared to that of the local *pathai* workers in Bhitaura.

As mentioned earlier, a Bihari *pathai* worker spends about nine months at the kiln, from Dussehra to Ganga Dussehra. He reports earlier than his counterparts in Bhitaura. The first one month the worker spends in making his shelter and preparation of *pasaar*/pitch (that portion in the field where he will be mixing the clay, mould the bricks and stack them for drying), and creating a water channel to pass through the *pasaar*. The owner provides the *pathai* workers with plastic sheets (tarpaulin) and tin sheets for building temporary

¹⁶ A brick kiln in Fatehpur has been found to have more than one area for moulding bricks. These are locally known as *pasaars*. The kiln owner takes on lease farm lands from different farmers for a fixed period, usually four years. These farms can be in different villages.

shelters. Gradually, these workers make their pitch, dig water channels and simultaneously begin the process of moulding and drying green bricks for constructing a shelter in which they will have to spend the rest of the eight months. Some *pathai* workers inform that if they come later than this period, it may get too cold to stay in the kiln without adequate shelter. The sustenance for this period is from the weekly *kharchi*/payment that begins when the worker arrives at the kiln.

“*Kharcha begins when we reach the kiln, whether there is work or no work,*” says *Bhikari*. Just then the *munshi* of the kiln intervenes: “*There is no work in the village and hence they come to the kilns early so that they can take advance (kharcha) and meet food expenses.*”

In Bhitaura, since the *pathai* workers are local, they report to the kiln only after Diwali. The work primarily is to make the pitch, prepare the water channel and dig clay. They do not engage in making shelters for themselves at the kilns. This work takes them 10 to 15 days to complete. There is no payment for this period.

2.3 (C2) Working Hours

For the moulder, when payment is made on a piece-rate basis, standardised working hours are unknown. The entire family is engaged in the production process through day and night, depending upon the season. It is on the basis of the output of bricks and the number of moulds that a family makes at the beginning of the season that the weekly allowances will be calculated.

During winters, work starts as early as 5:00 am for the Bihari *pathai* worker and except for a couple of intervals, work continues till it gets dark, at 6:00 pm. In summers, work is done all night and the brick-kiln owner makes arrangements for kerosene lamps for work to continue in the dark. The difference in the seasonal output varies between 100 and 200 bricks per day. Although the *pathai* workers find it difficult to admit, in the case of Surir the output is more in summers than in winters. The owners feel that workers are better able to work all night during summers and make up for the loss due to fog, rain and cold. It is actually in the best interest of the owners to maximise the output of bricks from the *pathai* workers before the kilns close for the rains.

In Bhitaura, though, the *pathai* workers say that the output in summers declines from that in winters. Jageshar from

Bahbalpur mentions that “*earlier the kiln owners would provide us with kerosene lamps, but not anymore since the last 5–6 years.*” During summers the work at night includes mixing water with clay (called *gada*), while moulding is preferred in the evening. Afternoons are generally preferred for turning bricks to dry or stacking them.

Productivity certainly shows some fluctuation as observed by Breman; the daily production is highest between November and February. From then on, the number of bricks made fall substantially. The heat is an important factor, but exhaustion due to the production process is more important (Breman 1996).

2.3 (C3) Weekly Off

In Surir, for the Bihari *pathai* workers every Monday is declared as a weekly off. Being paid piece rates on the number of bricks moulded, this is an unpaid off. It implies that the *pathai* worker can leave the kiln only on a Monday to buy grocery and other requirements from the local market. Twice a week the *munshi* puts on the generator for pumping water into the *pasaar*/field. Monday morning is one of the two days. The water will be channeled into the workers’ pitch and he is required to soak the clay in it (also referred to as *mitti fulana*). Before the water is released, the worker digs as much clay as he thinks is required till the next release of water. All work related to water is to be attended. Weekly off connotes ‘no moulding’ and ‘no payment’. The weekly *kharchi*/payment is made only on Mondays.

These measures control the workers’ mobility in the kiln. For most times, the male *pathai* worker along with other coworkers will set off for the weekly market or *painth*, as it is called locally. The *pathai* workers’ families do not accompany them outside the kiln. Although the workers may feel that due to the availability of water on this day, women can finish their washing chores like laundry and bathing the children, it is yet another way of ensuring that the family does not escape the kiln.

The UP *pathai* workers in Surir as well as those in Bhitaura get two days off for every 15 days of work. Some of the *pathai* workers in Surir who are from nearby regions prefer to go home to look after their farm, livestock and those left behind in the house. For 32% of the surveyed *pathai* workers in Bhitaura, the two-day off is spent in the *pasaar* in doing all work other than moulding. The others go to their farms nearby for tending to their crops.

2.3 (C4) Conditions of Work

Among the most basic rights, access to drinking water and to toilets at the workplace is denied completely in kilns at both the research locations. For the Bihari *pathai* worker in Surir, since the working and the living space are the same, the water that is pumped for mixing clay is the same used for drinking too. The women migrants say that without access to toilets they are forced to defecate in the open. There too, because they face threats from the farmers, they relieve themselves at night.

The impact of the denial of basic amenities and systematic dehumanisation and humiliation of workers on their status and conditions of servility cannot be overlooked (John 2014). As a result of the poor hygienic conditions in which the migrants are forced to live, they are vulnerable to diseases like diarrhoea and dysentery. The situation is chronic when accessibility to public-health institutions is completely denied.

On 15 May 2017, there was a diarrhoea outbreak in Surir village which affected the brick kilns the most. *“From our kiln, three children have died and at least one from each family has been affected by diarrhoea,”* says Samman, a *pathai* worker from Nawada, Bihar, working in Rajuka Bhatta. *“For us there is no government facility; the owner is sending us to Aakash Medical Centre (a privately run clinic) for treatment. The owner says he is spending Rs 1,500–Rs 1,600 per person for two units of intravenous medication. He will deduct this money from our settlement. He has asked us to vacate the space and get back to our villages. We will be replaced by the local workers.”*

“How can we go back to the village without our thekedar/contractor? He will have to settle our payments with the owner. All chances of a fair settlement at the village will be lost, if at this point we return from the kiln,” cries Samman.

For some, the situation back at the source can be so distressing that they find *“the bhatta is the only place where you can sit. By the time we reach our village, our houses would have been washed out in the rains.”*

As Breman mentions, precautionary measures of any kind are conspicuous by their absence and injuries of all kinds are common occurrences. It is futile to expect any compensation from the contractor or even the owner in the event of any disability or even death of a worker (Breman 1996).

Mauji Lal of Kaidpurwa village in Bhitaura recounts the horror of his 10-year-old daughter's accident at the kiln, while

she was clearing the coal embers. She had burn injuries on her feet. Mauji Lal could not attend work for the next few days. The owner paid Mauji Lal only for half of the bricks he had moulded the entire season and said the deductions were against the loss that he incurred for Mauji Lal's unaccounted leave.

The *Painth*/Weekly Market in Surir

While discussing access to market, it is important to mention the weekly market, also called *painth*, held every Monday in Surir. Discussions with vendors suggest that this market is organised to cater to the needs of the migrant brick-kiln *pathai* workers in Surir. It is from here that the workers shop for their groceries, vegetables and any other article they may need. As one *pathai* worker we met in the market puts it, *“UP is a very costly place. In Bihar we get wheat flour for Rs 10–Rs 12/kg, whereas it is Rs 25/kg here. Similarly, gram flour sells at Rs 100/kg here. The entire kharchi that we get in the week gets spent here.”*

Some of the vendors mention that *“the Bihari pathai workers earn well, they are ready to buy things at any rate. We earn enough when they are here. The market does not operate when the brick kilns are closed. At that point we go to the city side to earn.”*

2.3 (C5) Wages

When the various stakeholders were asked about the wages, there was uncertainty in their responses. Brick-kiln owners at both research locations said that the brick-kiln owners' association decided the wage rates.

Rajkumar, an owner in Surir, says: *“This region is weak in the bricks market. We produce bricks at a lower cost and sell them at a lower price. In other areas, the prices of bricks are fixed and they are not sold at less price. Depending on the sales the previous year, the wages are decided. If the sales are high, then the wage rates are increased. It is a factor of how much we are able to save after the sales.”* Till such wage rate is decided, the previous years' wage rates prevail.

In our survey, 85% *pathai* workers in Bhitaura have reported a wage rate of Rs 500 in the current year; the remaining received between Rs 450 and Rs 475. The workers have reported a wage hike of Rs 50 every year. Since no middlemen operate between the *pathai* workers and owners in Bhitaura, wage is received directly from the owner. However, some *pathai*

workers mention that if after the *ganga dussehra* (the festival that marks the end of the brick workers' engagement in the kiln) the weather is clear, the owners may ask the workers to continue moulding for a few more days at a higher rate (can reach as high as Rs 600/1,000 bricks).

In Surir, no fixed wage rate was found amongst the Bihari *pathai* workers. During the discussions, none of the workers reported being told by their contractors the wages for the current year. "Every year we get a marginal hike in our wages that will depend on the *maalik's* union, which will decide towards the end of the season." The highest wage rate amongst the Bihari *pathai* workers was found to be Rs 450/1,000 bricks. The rates prevailing in the previous year was between Rs 400 and Rs 450/1,000 bricks. The workers say that even if there is a revision in wages, it is not more than Rs 10 a year. The rates amongst these *pathai* workers definitely differed from contractor to contractor.

2.3 (C5.1) Wage Records

The workers at both research locations in Bhitaura and Surir have shared that besides the record book with the employer, they also maintain their own record, in a diary that is issued to them by the employer. Entries in the diaries of the two sets of workers differ on certain aspects that are discussed below.

The Bihari *pathai* workers of Surir get their daily output of green bricks recorded by the *munshi*. This diary is also called the *kachcha khata*. Based on the number of bricks moulded in a week, the *pathai* workers receive their weekly allowance. Whether the workers are literate or not, the *munshi* makes entries in their diary. As one *munshi* says, "these poor illiterate workers rely on us for entries." However, when a worker was asked about his records, he said, "we have been in the brickmaking work for years now, why will we not remember our output?" After the final settlement is made at the end of the season, the practice is to destroy the workers' diaries.

Besides the *kachcha khata*, there is a *pucca khata* that shows the number of bricks entered after *bharaai*. After the *bharaaiwalas* (the workers who transport green bricks from the *pathai* area to the chimney area in the kiln) cart the bricks, the *munshi* enters the number of bricks (henceforth called the *pacci int*) after taking away the deductions. The *pucca khata* mentions the advance, the *kharchi* (weekly allowance) and the final output.

The *pathai* workers in Bhitaura maintain only a *pucca diary*,

and here again, like in Surir, the *munshi* enters the number of bricks after the *bharaai* has taken place. Jagrup, a worker, mentions, "Earlier we used to keep the diaries with ourselves, but in the last three-four years the owner takes it from us, lest any worker claims nonpayment."

2.3 (C5.2) Deductions

Deduction from the *pathai* workers' output of bricks and final payment is a standard practice in both research locations.

In Surir, the deduction on the output of green bricks by the owner is 25 bricks on every 1,000 bricks. It is also called in the local language as *pachisya*. All the Bihari *pathai* workers have said during the discussions that the contractor deducts 5,000 bricks for every 100,000 bricks they produce. There is no separate deduction for the bricks damaged in rains. Once the green brick is out of the *sancha*, it is counted.

In Bhitaura, workers say that if at the time of rain the bricks are stacked, they get paid half the wage. The unstacked bricks lying on the ground are not counted. The deductions in Fatehpur are referred to as *bauni* and *ekavani*. The former refers to deduction of 40 bricks per 1,000 bricks, and the latter denotes deduction of 20 bricks per 1,000 bricks. Workers tell us that if equipments (bucket, spade/hoe) and firewood are taken from the owner, *bauni* gets deducted. If not, then it's *ekavani*. Any other damage (usually caused by stray dogs or a cycle) will get deducted at the time of *bharaai*. Sukhrum of Hussaingunj, Bhitaura, mentions that if there are less workers in a particular season for moulding, *ekavani* will apply instead of *bauni*.

Provision of firewood is an important component in deciding the wage or deductions per 1,000 bricks. In Surir, Deepa Pradhan says: "The *pathai* workers do not work in the cold and it is expensive to keep providing them with firewood. The firewood costs Rs 5.50/kg. Whether the wages are inclusive or exclusive of the firewood will be negotiated at the beginning. If owners provide the firewood, then we pay them Rs 30-Rs 40 less. We provide firewood to the migrant workers as they will not know where to buy them from."

2.3 (C5.2.1) Other Deductions

In our survey, 77% of the *pathai* workers in Bhitaura say that there is no arrangement for electricity (usually lamps are provided at night during summers). For the Bihari *pathai* workers who are provided lamps for night work, a deduction of Rs 250 is made for every lamp during the final settlement.

“We have to extract work from the worker to the maximum, till we meet the money advanced to them. The expense towards a migrant worker’s sickness is also negotiated with the contractor, before the worker arrives. If we take the responsibility of bearing the medical expenses, then we pay Rs 5 less in wages; otherwise we pay Rs 5 more. In case of a major illness, we send the worker back to his village. With local workers we do not bear medical expenses,” explains Deepa, a kiln owner.

Deduction of any loss or damage of equipment during the working season is made at the time of final settlement.

2.3 (C6) Workers Leaving Mid-season

Instances of migrant *pathai* workers leaving the kiln overnight are not very uncommon in Surir. The employers say *“Biharis will leave the lamps turned on at night at their pasaar.”* During the research, while *pathai* workers did not say if they had experienced/witnessed this, they came across as being familiar with the implications of such an act. Wage rates will be halved, and rent for the shelter and cost of firewood and transportation will be charged.

2.3 (C7) Dispute

“We are poor people and have come far away from our village/state. We cannot survive here if we fight or get into an argument with anyone here. But if there is some mistake in our work, then at times we may get into an argument with the contractor or the owner,” so says a worker from Bihar.

The binding conditions under which a migrant Bihari *pathai* worker is not allowed the choice of the geographical region to migrate to, or the conditions of work at the workplace, implies that workers are not allowed to insist on their labour rights or expect any state entitlements/benefits (as social security) as applicable to them within their own rights as workers. As also mentioned in the beginning of the chapter, brick-kiln owners prefer to hire migrant workers from outside the state as the migrants can be easily controlled and suppressed.

Only three Bihari *pathai* workers of those surveyed have reported disputes with their contractors on grounds of advance settlement and quality of bricks produced. Only two workers have reported to have entered into disputes with the *munshi* on the number of bricks recorded. But in none of the above mentioned cases was there any settlement in favour of the worker, or the involvement of a union, or even the government machinery. The absence of any dispute redressal mechanism is very typical of the brick kilns in this region.

Likewise, in Fatehpur only two workers of those surveyed reported to have raised any dispute with the *munshi* on the number of bricks recorded. As many as 16% *pathai* workers have reported deaths, accidents and illnesses at the workplace but none of the cases were addressed.

Several Central Acts are applicable to the brick kilns, like the Factory Act, the Inter-state Migrant Workmen Act, the Payment of Wages Act, and the Equal Remuneration Act. These, though, are openly flouted. As Jayati Gupta points out, the All India Bricks and Tiles’ Manufacturers’ Federation is against the plethora of labour laws applicable to the brick kilns, the multiplicity of government enforcement authorities, the maintenance of a large number of records, and statutory returns to the government authorities (Gupta 2003).

2.3 (C8) Collectivisation of Workers

Augendra, Isabelle, Parthasarthy and Venkatasubramanian (2007) point out the highly-segmented local labour market among kiln workers that limit the formation of workers’ organisations. The segmentation of the labour market occurs at two levels: at the level of production units that employ migrant labourers and at the level of village of origin that is closely linked to caste membership. The segmentation of workers makes it difficult for the formal unions to contact and unite the workforce in the kilns.

In Surir, there was a clear absence of any form of collectives of *pathai* workers at the workplace. To avoid the risk of unification, the contractor keeps changing the kilns the workers go to (Augendra, Isabelle, Parthasarthy and Venkatasubramanian 2007). While all *pathai* workers we came across in the survey were from Nawada district in Bihar, they were from different source villages in any given kiln. None of the workers we interacted with could recollect any incidence of collective action or a trade-union intervention. To most, the contractor is able to undertake the functions of a union. To them, the contractor is their grievance redressal mechanism who also negotiates wages and working conditions with the kiln owners, and helps the workers in times of difficulty.

In Fatehpur, 59.1% of the *pathai* workers surveyed were part of some collective in their village or the union. This union is a nascent body, Bhatta Kaamgaar Evam Nirman Shramik Union, with membership of the construction workers too. Among the surveyed, 36.7% out of those who are not members of any union have expressed their willingness to join one.

George and Sinha (2017) in their book *Redefined Labour Spaces: Organizing Workers in Post-Liberalised India* discuss the continued existence of neo-bondage in a highly globalised economy. They talk about the multiple vulnerabilities of workers in the brick kilns in mobilisation and collectivisation. Citing various Labour Bureau reports and other research studies, they suggest that workers in the brick kilns are not organised as there is no reporting of trade union memberships. Routh's (2014) book stresses the need to ensure appropriate employment and income, rights at work and effective social protection in informal economic activities. According to her, informal workers should try to organise as self-help groups or collectives in order to engage themselves in the social-dialogue process.

3. Conclusion and Key Recommendations

3.1 Conclusion

Flanked by the Yamuna Expressway on one side and Mathura on the other, a pilgrimage city that has witnessed a phenomenal rise in the real estate business catering to the increasing footfall of tourists and foreign investments from religious institutions, the lives of the brick-kiln workers in village Surir (the research area, under tehsil Mant in district Mathura) continue to be the same and in some cases worse off, compared to how it used to be for those even a generation before. Likewise, due to the dependence on work in brick kilns as the only means of survival, the local *pathai* workers in Fatehpur subject themselves to exploitation and further marginalisation for the fear of being replaced by migrants.

The supply-chain study in Mathura has shown that there has been a recorded increase of 75% in the number of kilns operating from 1996 to 2016 (the percentage may be higher as most kilns do not register themselves regularly with the concerned authority), feeding the construction sector in the region while facing stiff competition from brick kilns of the neighbouring states of Haryana and Rajasthan. The tax advantage given to brick-kiln entrepreneurs in Haryana and Rajasthan makes it pliable for them to transport their product to the Mathura market. The volume of trade in bricks has increased manifold, giving further boost to the industry—despite stagnation in the price of bricks. This phenomenon has led to a huge demand for migrant brick-kiln *pathai* workers in

the region, replacing the local labour. The labour contractors for migrant workers have gained a prominent place and exercise significant control on the region's labour market.

Through this study, it is once again affirmed that the migrant *pathai* workers belong to the Scheduled Caste, a caste that is pushed into taking up the lowliest and most degraded forms of work and working conditions and continues to live in extreme poverty. Minimal provisions at work, piece-rate wages, long working hours, engagement of family labour including children, and continuous work in the open at extreme temperatures (from 4 degrees in winters to 48 in summers) are all endured only to repay their insurmountable debt and to be able to survive. They spend three quarters of a year in brick kilns, returning home only during monsoons when the kilns close operations. At the source, they are excluded from the developmental schemes and find themselves toiling as agricultural labour against payments made in a few kilograms of food grains. With scarce options to work, the worker is forced to enter into debt with the contractor and once again sell his own and his family's labour.

The research area in Fatehpur presents yet another picture. The growth in the brick kilns business has not been as steep as in the case of Mathura; the kilns here have been in operation since long, about 30–35 years, and the brick market is fairly predictable. The rate of urbanisation in the district is lower than that of its neighbouring districts of Allahabad, Kanpur and Lucknow. Traditionally, Fatehpur has been catering to the demand for bricks from its southern neighbours Banda and Chitrakoot (regions that do not have brick kilns due to the topography) for rural housing and to the demand from within Fatehpur. It continues to do so. After agriculture, kilns are a major source of employment for the local population in the region.

A characteristic feature of the area is the complete absence of contractor between the entrepreneur and the *pathai* worker. Recruitment being direct, the employer disburses the advance amount himself or through his close aide. Advance amount is limited and fixed, and in most cases workers have been able to repay their debts by the end of the brickmaking season. Preference for recruiting local workers directly without an intermediary benefits the owners as the period of peak and low demand for bricks can be met with the readily available workforce. The employer exerts complete control on the worker's life not only at the workplace but also at the source. The employer is powerful and in some of the kilns we accessed,

the employers held important positions, be it *pradhan*, *zamindar* or even member of a political party.

From the same study area, a good number of brick-kiln workers migrate to Punjab for work each year. The *pathai* rates in Punjab are higher than in most states in the country, and consequently, in order to retain a sizeable number of *pathai* workers from villages in Bhitaura, the brick-kiln entrepreneur pays similar wage rates to the local *pathai* workers as those given to the migrant workers in Punjab. But this relatively higher wage (relative to the wages given for *pathai* work in Mathura) is offset by higher deductions from the workers' production of green bricks, denial of provisions (for example, lanterns/electricity to work at night), extended periods and nature of work (when the local *pathai* worker is asked to break coal, work as a *bharaai*, or a *nikasi*, or even as a loader during the interregnum). Instances of workers sharing that the employer often threatens to replace them with migrant workers on occasions when workers go on leave or even when they demand a rest shade from the extreme heat at the workplace are not uncommon.

At the time this research was conducted, demonetisation was announced in the country. This move had hit the brick-kiln industry severely. The demand for bricks had plummeted. In Fatehpur the major demand for bricks is from the rural areas; in Mathura it is farmers who buy bricks from the owners and sell it in the *mandi*. A large chunk of the financial transactions of the brick-kiln owners is in cash, including advances and payments to workers, transactions with contractors, and transactions with transporters and buyers. The local *pathai* workers in Fatehpur were seen anxiously visiting the kiln everyday in anticipation of work. But due to demonetisation, some of the kilns had not resumed operation. Advance was given to the workers but not the equipment and tools. In Mathura, the *pathai* workers complained of not getting regular and timely *kharchi*.

Working conditions in brick kilns across the two study areas are no different. The industry's dependence on a readily available seasonal and cheap labour (involving the whole family including children) willing to work under piece-rate wages and kept out of the ambit of standard working hours and wages makes it a low-capital and highly labour-intensive industry. Laxity in inspections and monitoring mechanisms to ensure minimum working standards at the kilns facilitates the

slave-like conditions. The lack of opportunity and indebtedness force the workers to accept exploitative conditions of work. The vicious cycle of poverty that the workers are trapped in gets reinforced due to their status as members of low castes, engagement in low-skill work, and being kept out of the ambit of government entitlements and social security net, both at the source and at the workplace. Their vulnerabilities are so extreme that in most situations, ranging from natural calamity and agrarian distress to political vagaries, the workers get pushed lower in the economy.

3.2 Key Recommendations

Promoting Workers' Collectives and Strengthening Them

Because the workers are not unionised, the migrants from Bihar are the most in demand in Mathura for the *pathai* work. They are a very pliable workforce. To say that the Biharis work better, or that their bricks are of a higher quality than those made by locals, is nothing but to say that more control can be exerted on the migrants and they can be made to work in oppressive work conditions to maximise output and meet the market demand. Employers fear local workers as these workers have access to the panchayat and the police in the region, if needed.

In Fatehpur a workers' union exists, but because of the fear of the influence of the employers, the union has limited itself to work related to entitlements (seeking membership of the Building and other Construction Workers' Board) for its member workers. Further, the direct relationship that is established between the owners and the workers, and the continued engagement of the workers in the same kiln for years thwart any attempt to raise serious concerns over the exploitative work conditions by the union.

Organising workers into a union and advancing the capacities of the union that will take up the cause of ensuring minimum wages, recognising women as workers and remunerating them for their work, a child-free and bonded labour-free worksite, protecting the workers' dignity from abuse and violence, and become instrumental in bargaining collectively, are a tall order in the present milieu.

Access to and Linkages with the Existing Government Entitlements to Address Vulnerabilities

In Surir, Mathura, while conducting the research study, in two kilns that had Bihari migrant *pathai* workers, we came across glaring incidents of two neonatal deaths and a maternal death for want of obstetric care. At the worksites, some of the women workers shared their concerns about giving their infants market-based formula milk. Unable to breastfeed their infants due to long working hours and inadequate intake of meals, they resorted to buying the exorbitantly priced formula milk, without realising the dangers of putting their children at risk of waterborne infections, malnutrition and even death.

Brick kilns as a factory under Section 2 (m) (ii) of the Factories Act, 1948, have notoriously denied the provisions of basic services of safe drinking water and toilets to the hundreds of workers to whom kilns are a workplace and a place of stay. Without access to toilets, women workers are vulnerable to threats to assault while going to the fields at night.

On 17 May 2017, there was a diarrhoea outbreak in the brick kilns in Surir for want of safe drinking water. Till the district administration sprang into action, there were already three reported deaths of children from the brick kilns and over a 100 people falling sick. It was the end of the brickmaking season, and the workers once again entered afresh into debt to access medical treatment from private clinics.

A multi-stakeholder approach involving the larger civil society including trade unions and employer bodies will have to be developed so that brick kilns as an industry finds a place in the existing framework of service delivery for its workers. Access to anganwadis, schools and health centres by the workers and their families cannot be denied at the source or the destination. Brick-kiln workers and their families will have to be mainstreamed by addressing the gap in service delivery and ensuring compliance of workplace facilities by kiln entrepreneurs for the rights, safety and security of the workers.

Promoting Institutions Like Labour Exchange and Skill-development Centres

Simply put, labour exchange will be a platform that will enable a worker to make an informed choice – choice of work and choice of destination and workplace (brick kilns in this case) regardless of caste, education, or regional affiliations. The key to make an informed decision will be access to information – information that will include workplace conditions/provisions in the kilns on equipments, shelters, drinking water, electricity, toilets, learning centres; wages offered, nature/type/amount of deductions, leaves, and payment of wages. Complete absence of access to information makes the worker vulnerable to exploitation by the contractors/employers.

On the employers' front, the exchange can facilitate direct access to workers. Worker-related information can include the number of years of work in the kilns and skill sets of the worker, amongst other things. The exchange should be able to influence the matching or bargaining process between workers and employers.

In the long run, the exchange should be able to address gaps in the current system, whether it is the advance given before the beginning of work or the role of middlemen. This next step will depend much on the capacities of the workers' collectives to take it forward.

The worker collectives can promote active labour-exchange information, facilitate in establishing linkages between workers and employers, assist in searching work and workers, and so on.

Skill-training centres can be initiated to identify the training needs of the workers, and combine their traditional skills of making bricks with skills related to new technology and equipments. Diverse and competent skills will provide the worker with stability of work, fair wages and work with dignity. Workers aspire towards upward occupational mobility and an escape out of the rigid social stratification that compels them into forced labour.

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ISBN: 81-88160-23-7



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