POST COVID-19: DEVELOPING
A RECOVERY STRATEGY FOR THE BRICK KILN SECTOR

Research Study as part of the Project:

Empowering CSOs for Decent Work and Green Bricks in India's Brick Kilns

SAMEER MAITHEL

BUILDING A WIDER HORIZON
CEC
WITH LABOUR

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Foreword

This research report is being published as part of a European Union (EU) funded project—"Empowering CSOs for Decent Work and Green Bricks in India's Brick Kilns", which is being implemented by Centre for Education and Communication (CEC), Prayas Centre for Labour Research and Action (PCLRA) and Terre Des Hommes, Germany-India Programme (TDH).

The report provides a comprehensive account of the way COVID-19 affected brick-kiln workers, brick-makers, suppliers and the brick-kiln industry as a whole and how an effective recovery strategy can be pursued post the pandemic. The report also discusses various long-term problems plaguing the brick-kiln industry that pose significant challenges to its sustainability and growth. The industry continues to rely on seasonal migrant workers with inadequate provisioning made to them. The brick entrepreneurs remain deprived of adequate institutional support such as dedicated credit lines and nation-wide recognition as a productive industry, thereby making technology transformation difficult. The report argues that only through a comprehensive strategy, which includes institutional support to brick-makers, promotion of decent work agendas and effective environmental policies can the industry achieve meaningful, long-term sustainability.

The report provides a set of recommendations crucial for industry associations, labour collectives, national and international institutions, as well as the authorities to pursue a robust recovery strategy for the brick-kiln sector. I am convinced that the study findings will not only be useful for the project but also for other stakeholders working in the sector and can be used as a crucial advocacy tool.

I thank Mr. Sameer Maithel from Greentech Knowledge Solutions Private Ltd. for preparing the report. I also congratulate the entire "Empowering CSOs for Decent Work and Green Bricks in India's Brick Kilns" Project Team for the successful preparation and publication of the report.

Lokesh **December 2020**
Executive Director
Centre for Education and Communication (CEC)
December 2020

Preface

The study on "Post COVID-19: Developing a Recovery Strategy for the Brick Kiln Sector" was undertaken as a part of the European Union funded project "Empowering CSOs for Decent work and Green Bricks in India's Brick Kilns". The project seeks to usher sustainable change through decent work and green technology in India's brick kilns. It seeks to increase the capacity of Civil Society Organisations (CSOs), brick kiln manufacturers' associations, workers' associations and local authorities to perform their roles more effectively, ensuring 'decent work' in brick kilns and the production of 'green' bricks.

The Indian brick industry plays a crucial role in the Indian economy and the construction sector. This study was undertaken over a period of ten weeks (October- December 2020), the background being the development of a revival plan for the brick kiln sector, which was deeply affected by COVID-19 national lockdowns. This study examines the impact of COVID-19 on the brick industry both during the lockdown period and during the ongoing brick making season and offers some suggestions towards a recovery strategy for the brick industry.

The author would like to thank the Centre for Education and Communication (CEC) team (Shri Mayur Chetia & Ms Lokesh) for providing an opportunity to undertake this study and for reviewing and providing inputs on the draft paper. The author is extremely grateful to Shri Om Prakash Badlani, Shri Ashok Kumar Tiwari, Shri Manish Gupta, Shri J John, Shri Sudhir Katiyar, Ms Anima Debbarma and Ms Mary Surin for taking out time to speak to the author. The author would like to thank the All-India Bricks & Tiles Manufacturers Federation for facilitating the collection of information from state brick manufacturers associations and to the state associations of Punjab, West Bengal, Haryana, Uttar Pradesh and Tripura for providing the necessary information on the impact of COVID-19 lockdown on the brick industry in those states. The author would also like to thank colleagues at Greentech Knowledge Solutions Pvt. Ltd., particularly Shri Sonal Kumar for assisting with the analysis and, more importantly, for contributions over the years to brick sector work and assistance in developing a common understanding.

Sameer Maithel **December 2020**
Director,
Greentech Knowledge Solutions Pvt. Ltd.
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CHAPTER 1

Introduction to Indian Burnt Clay Brick Industry

1.1 Indian Brick Industry

Burnt clay bricks are produced by baking clay bricks in a kiln. It is the most popular building material in the country, primarily used for the construction of walls. As per Census 2011, more than 12 crore households (almost 50% of the total households in the country) were living in houses constructed using burnt clay bricks. There has been a surge in the use of clay bricks for house construction, in the last 50 years. Apart from wide-scale availability and affordable prices, factors such as longevity, good structural strength, and reusability make burnt clay bricks a popular choice for building material among the masses.

Industries making bricks are micro/small enterprises located in rural and peri-urban areas. It is seasonal work, with kilns generally operating in the dry season between November and June. As per estimates, there are around 1.4 lakh brick enterprises operating in the country and the annual production is estimated at between 24,000 and 26,000 crore bricks a year, placing India as the second largest producer of bricks in the world after China[1].

Burnt clay bricks are manufactured in almost all states of the country, though there are considerable variations in the quality and availability of the primary material, brick earth, the scale of production, the technology employed, and the quality of bricks produced. Based on brick manufacturing intensity, states can be divided into three categories – high intensity, medium intensity and low intensity (Table 1). High and medium intensity states are the main brick producing states. The intensity has been measured in terms of number of bricks manufactured per capita per year. The calculations are based on data on the number of units and the typical production capacity collected from brick industry associations and literature.

1.2 Brick Kiln Workers

The manufacturing of bricks in India is manual labour intensive. As per the Economic Survey of India 2016-17, there are over 10 crore migrant workers in India[2] directly responsible for 10% of the GDP. Brick kilns are one of the largest employers in the country, conservatively estimated to employ 1 crore workers. Though a small percentage of workers on brick kilns are locals from nearby villages, the majority are migrants. As brick kilns are operated generally for approximately six months a year, most kiln workers work in agriculture in their villages and migrate to kilns for a few months every year to work on brick kilns. A large percentage of workers working in brick kilns belong to Schedule Castes and Scheduled Tribes[3].

In recent years, the use of machines has increased in brick making. Currently the use of machines is restricted to certain operations like digging of clay (use of JCBs), preparation of clay mix (clay mixers/ pug mill) and transportation such as tractors, trucks and electric vans. Most workers are employed in moulding, which is predominantly manual. Operations such as stacking bricks in the kiln, feeding fuel in the kiln and removing burnt bricks from the kiln are done manually.

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[1] J S Kamyotra, CPCB presentation titled 'Brick Kilns in India', Presentation made at the workshop on "Roadmap for Brick Kiln Sector Challenges and Opportunities", organised by Centre for Science and Environment at New Delhi on 8 February 2016.

[2] Livemint, May 8, 2020, https://bit.ly/3caLJv3

[3] Shamindra Nath Roy and Eesha Kunduri (2018), MIGRATION TO BRICK KILNS IN INDIA: AN APPRAISAL, Centre for Policy Research, New Delhi, July 2018.

Table 1: **Brick Industry Distribution in States**

Category	States	Brick Industry Characteristics
States with high intensity brick production (200 to 500 bricks/ person/year)	States located in the Indo-Gangetic Plains: • Punjab • Haryana • Uttar Pradesh • Bihar • West Bengal • Tripura	• Good quality brick clay available throughout the state • 40,000-50,000 brick making units, accounting for almost 50% of the country's production • Brick kiln technology employed either Fixed Chimney Bull's Trench Kiln (FCBTK) or its improved variation, the zigzag kiln
States with medium intensity brick production (100 to 200 bricks/ person/year)	• Tamil Nadu • Maharashtra • Gujarat • Rajasthan • Assam • Jharkhand • Uttarakhand • Himachal Pradesh • Jammu & Kashmir	• The availability of good quality brick earth is limited • Fewer high-output kilns • These states have some large clusters (mostly FCBTK kilns) in and around cities or regions with availability of good quality brick earth • States like Gujarat and Maharashtra also have a large number of small production units using clamps
States with low intensity of brick production (less than 100 bricks/ person/year)	The rest of the country	• Low availability of good quality brick earth • Substantial supply of alternate walling materials such as stone, concrete blocks and fly ash bricks • Some states such as Karnataka and Odisha have several large brick kiln production clusters. • The production capacity of enterprises is low; clamps are used as the firing technology, while down-draught, Hoffmann and FCBTK technologies are also employed

1.3 Linkages with Rural Economy

As mentioned earlier, most of the brick kilns are located in rural areas and the workers working in brick industry belong to rural areas. The brick industry has multiple and deep interlinkages with the rural economy:

- **Wages paid to workers**: Wages are one of the largest components of the cost of production of bricks and usually range between ₹1 to ₹1.5 per brick. For an annual production of 25,000 crore bricks, the amount paid in wages to rural workers range is estimated to range between ₹25,000 crore to ₹37,500 crore per year.

- **Purchase of raw material:** Rural areas are an important source of two raw materials used for making bricks – brick earth and biomass fuel (agriculture residue). A significant part of the brick earth (soil) used for making bricks is purchased from farmers. The cost of procurement of brick earth varies across the country, with the cost of brick earth for 1,000 bricks varying from ₹100 to ₹300, implying a total inflow into the rural economy of ₹2,500 crore to ₹5,000 crore. Around 1 crore tons of agricultural residue such as mustard stalks and rice husk is used as fuel in brick kilns. Assuming an average price of ₹1,500 per ton for agricultural residue, the total cost of biomass fuel is computed at ₹1,500 crore.

- **Purchase of equipment and services from rural industries**: A brick kiln requires various types of implements and small machinery such as moulds,

feed hole covers, and fans. In addition, money is spent on services such as equipment maintenance. These are sourced from rural industries and service providers, with estimated annual inflow into the rural economy at ₹200crore to ₹500 crore.

The above analysis indicates that the direct contribution of the brick industry to the rural economy is around ₹40,000 crore, a figure comparable to the ₹60,000 crore budget allocation for the Mahatma Gandhi National Rural Employment Guarantee Act for 2019-20.

In addition, around half the bricks produced are used in rural areas. Burnt clay bricks have emerged as the most popular material for walling in rural houses and have been the backbone of initiatives such as the Pradhan Mantri Awas Yojana (Rural). While in 1971, only around 15 percent of the households lived in houses constructed using burnt bricks, this increased to around 40 percent in 2011.

1.4 About the Study

The study on "Post COVID-19: Developing a Recovery Strategy for the Brick Kiln Sector" was undertaken as a part of the European Union funded project "Empowering CSOs for Decent Work and Green Bricks in India's Brick Kilns". The project seeks to usher sustainable change through decent work and green technology in India's brick kilns. It seeks to increase the capacity of CSOs, brick kiln manufacturers' associations, workers' associations and local authorities to perform their roles more effectively to ensure inclusive 'decent work' in brick kilns and produce 'green' bricks.

This study was undertaken over a short period of ten weeks between October and December 2020, the background being the development of a *revival plan* for the brick kiln sector post COVID-19 national lockdowns, which had deeply affected brick kilns. This study examines the impact of COVID-19 on the brick industry both during the lockdown period and during the ongoing brick making season. A recovery strategy is presented in Chapter 3.

Chapter 2 is based on a review of media reports on the brick industry, information collected from state brick kiln owners' associations, and interviews conducted with key stakeholders.

Chapter 3 of the study is the continuation and further development of thought processes based on the experience of the author, who has worked for more than two decades with the industry. One-on-one discussions with brick industry stakeholders have helped refine Chapter 3.

CHAPTER 2

Understanding the Impact of COVID-19 on the Brick Industry

2.1 Impact of COVID-19 Lockdown on Operation of Brick Industry (March-June 2020)

The first news about the coronavirus came towards the end of December 2019. By the end of January 2020, coronavirus had reached India. On March 24th, the Government of India announced a country-wide lockdown to contain the spread of the virus. The announcement was widely welcomed but it also took the entire country by surprise. The coronavirus crisis hit right in the middle of the brick production season. This also came at a time when the brick industry was already struggling in several regions because of production losses due to unseasonal rains, a reduced demand (with a slowdown of growth in the construction sector) and closure (due to air pollution) during the winter months.

As we know, the most impacted population group was migrant workers. Within a day or two of the announcement of the lockdown, an exodus of migrant workers from the cities was reported by the media[1]. During this migrant worker crisis, the brick industry was in focus.

Migrant workers working in brick kilns comprised both workers migrating from nearby areas within the district or state and inter-state migrant workers. The proportion of inter-state migrant workers varies from state to state: while a state such as West Bengal employs more local and intra-state workers, others such as Punjab, Tripura and Andhra Pradesh are heavily dependent on inter-state migrant workers, who come mainly from Eastern Uttar Pradesh (UP), Bihar, Odisha, Chhattisgarh and Jharkhand.

A survey of the news reports during the lockdown period in the national and regional media provides a glimpse of the developments related to the brick industry in various parts of the country (Figure 1). During the first phase of the lockdown alone, several states such UP, Punjab and Haryana realised that brick kilns employ a large number of migrant workers and allowed their operation so as to provide continued employment to workers and to prevent reverse migration. On the other hand, other states waited till mid-April before allowing the operation of brick kilns. At the end of first phase of the lockdown, the Ministry of Home Affairs issued guidelines allowing the operation of brick kilns located in rural areas starting April 20, 2020.

Specific state level situations based on media reports and interactions with brick kiln industry associations and CSOs are presented in the following sections.

2.1.1 Punjab

The Government of Punjab announced on March 28, 2020 that the state would allow brick kilns to operate. As per a report published in The Economic Times on March 29, 2020[2], The Chief Minister of Punjab, Capt. Amarinder Singh said *"to prevent exodus of migrant labour amid the COVID-19 crisis, all brick kilns in the state to commence operations with such migrants if they have adequate provisions to accommodate them safely within the premises"*. A report in the Hindustan Times[3] dated March 31 stated that brick kilns in the South Malwa region of Punjab have started operations. The report stated that there are around 600 brick kilns in the region, with each employing between 125 and 150 workers.

[1] The Caravan, March 26, 2020, https://bit.ly/2FDrRVu

[2] Economic Times, https://bit.ly/33q8CIz

[3] Hindustan Times, https://bit.ly/2C10jrv

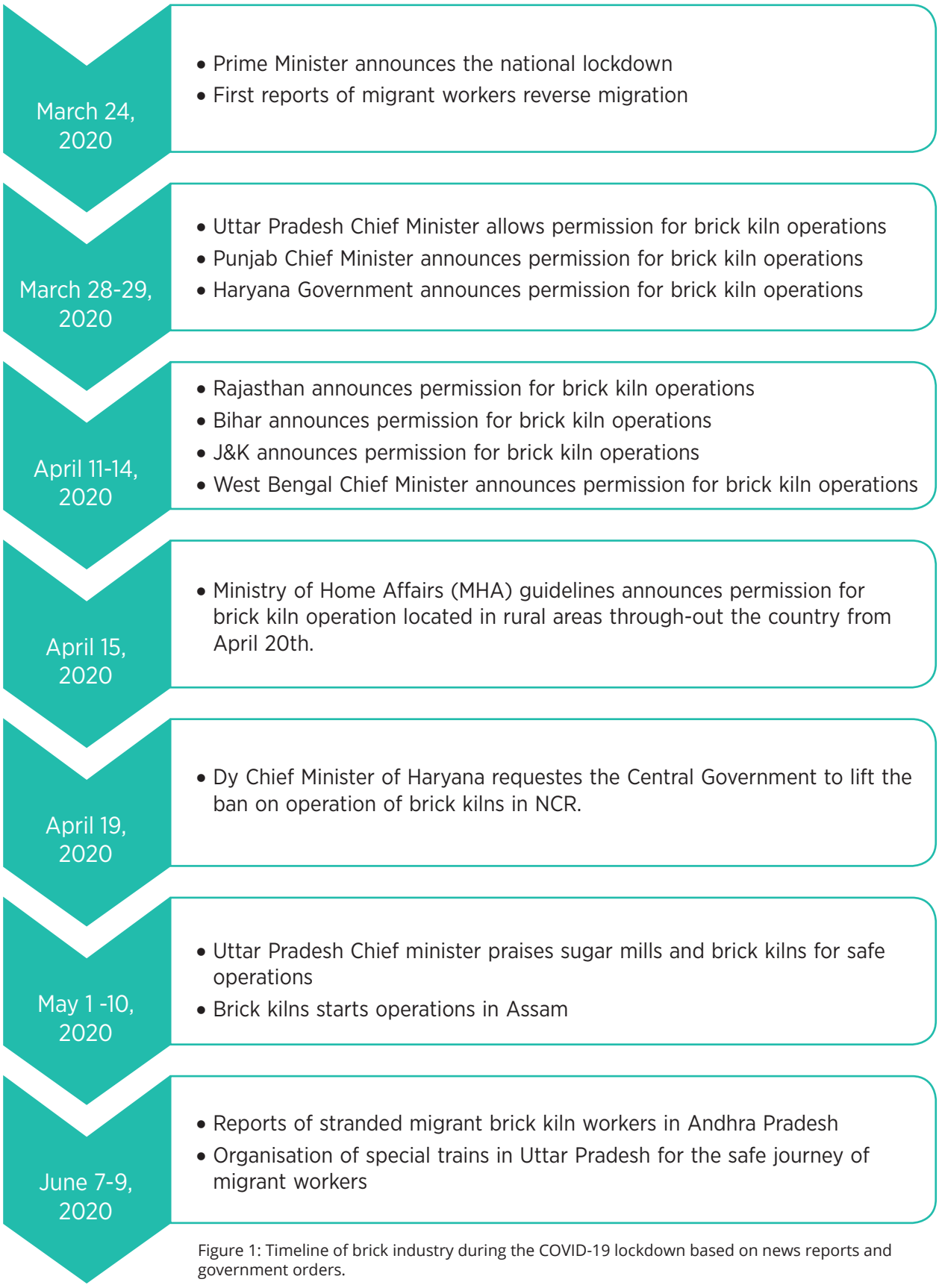

Figure 1: Timeline of brick industry during the COVID-19 lockdown based on news reports and government orders.

Punjab CM allows operations in industry, brick kilns to support migrant labour

(The Economic Times, March 29, 2020)

चीनी मिलों व ईंट भट्ठों की तर्ज पर अन्य उद्योगों को चलाया जाए: सीएम योगी

(Amar Ujala, May 3, 2020)

Haryana CM Khattar said that all brick kilns have been allowed to function and presently around 2.07 lakh labourers are working at these kilns. *(The Economic Times, April 30, 2020)*

CM Mamata Banerjee threw open brick kilns, which engage a huge number of workers.

(The Times of India, April 16, 2020)

Tripura government to provide ₹1000 and 20 days' ration to 21,899 brick kiln migrants workers

(The North East Today, April 12, 2020)

Haryana deputy CM urges Centre to lift ban on operation of brick kilns in the NCR

(The Economic Times, April 30, 2020)

Figure 2: Some News Headlines and quotes from State Leaders

As per the information provided by the Punjab Brick Kiln Owners' Association, almost 2,400 brick kilns employing 1.44 lakh workers operated during the lockdown period till early June, and approximately ₹1,000 crore was paid as wages to workers[4]. Brick kilns could not sell bricks during the lockdown period. Due to travel restrictions, problems were faced in organising food and essential supplies for workers. They claim that while a list of workers working in kilns was collected by the Labour Department, no support was forthcoming. The District Food & Supplies Controller provided food to migrant workers working on brick kilns only in the month of June and that too only to just 5 percent to 10 percent of migrant workers. At the end of the brick making season in June, with support from the state/district administration, transport was organised to take migrant workers to their villages.

2.1.2 Haryana

When the lockdown was announced, the Haryana Kiln Owners Association wrote a letter to the Chief Minister. Dated March 29 2020, this letter referred to the exodus of migrant workers and expressed the apprehension that if kilns were not allowed to operate, around 4 lakh workers working in 3,200 kilns across the state might panic and start migrating back to their villages[5]. The letter also referred to the orders issued in the two neighbouring states of Punjab and Uttar Pradesh where brick kilns had been allowed to operate. The letter stated that as each family involved in moulding had between 1,200 and 1,500 square yards of working area, it was possible to maintain social distancing, and as the workers have their home adjacent to the kiln, it was like "Working from Home". The state government allowed the operation of brick kilns that day. An article in The Indian Express dated March 29, 2020[6] quoted State Cabinet Minister Kanwar Pal saying *"If the workers want to work at brick kilns, they can continue to work there. But they will have to strictly adhere to the principles of social distancing and take adequate precautions."*

The role of the brick industry in continuing to provide employment to migrant workers was acknowledged by Chief Minister Mr Manohar Lal Khattar. The Economic Times dated April 30, 2020[7] reported "*The Chief Minister said that all the brick kilns in the State have been allowed to function and presently around 2.07 lakh labourers are working in these brick kilns. Apart from this, following the MHA guidelines, various industrial units have been opened in which approximately 5.5 lakh employees and workers are working while adhering to the social distancing norms.*"

A few days prior, The Economic Times dated April 20, 2020[8] reported "*Haryana Deputy Chief Minister Dushyant Chautala on Saturday asked the Centre to immediately lift the National Green Tribunal ban on the operation of brick kilns in NCR, saying the environment has become largely clean during the nationwide lockdown. Chautala, whose Jannayak Janta Party is a coalition partner of the BJP in Haryana, made this demand during a meeting of Union Rural Development Minister Narendra Singh Tomar with states' rural development ministers via video conference*"

As per the information provided by the Haryana Brick Kiln Owners' Association, almost 2,800 brick kilns employing 4.50 lakh workers operated during the lockdown period (70-80 days). As per their estimates, around ₹450 crore was paid as wages during the lockdown period. All the district associations also made contributions to the PM Corona Relief Fund. As per the Association, they were not able to sell bricks during the lockdown period and had to incur large expenses. However, they did not receive any assistance from the Central or the State Governments.

2.1.3 West Bengal

The story of the West Bengal brick industry during the COVID-19 lockdown is very different from that of states such as Punjab and Haryana. The West Bengal Government did not allow brick kilns to operate during the first lockdown period. Brick kilns were allowed to operate after April 20 2020 with a condition that only 15 percent of the workforce could be employed. Usually, April and May in West Bengal are the months of *Kala Baishakhi* when violent thunderstorms are common. This is also the end of the brickmaking season. With only 15 percent of workers employed, very few bricks could be made, most of which were damaged due to rains during the drying period. As a result, almost no production of bricks took place during the COVID-19 lockdown period in West Bengal.

[4] Information provided by the Punjab Brick Kiln Owners' Association.

[5] Information provided by the Haryana Brick Kiln Owners' Association.

[6] The Indian Express (29 March 2020) https://bit.ly/2FpWCxm

[7] The Economic Times (30 April 2020) https://bit.ly/3hBNCSL

[8] The Economic Times (20 April 2020) https://bit.ly/2Rv2l7j

Figure 3: Transport being organised for migrant workers and other photographs (Source: BBFOA)

As per the Bengal Brick-Field Owners' Association (BBFOA), West Bengal has around 7,000 brick kilns and employs around 11 lakh workers (around 160 workers per kiln). The West Bengal brick industry is different from that in several other states, as almost 55 percent of the workers employed are local (non-residential), while the rest are migrant workers who reside at the kiln.

Based on the information received from the brick kiln owners and a few stories that appeared in the media, it seems that the brick kiln owners in West Bengal took good care of the workers and provided wages and food to them during the lockdown (News18, June 7, 2020). As per BBFOA, all migrant workers residing in brick kilns were paid wages at the rate of ₹300 per day for about 50 days (till mid-May, which is the usual end of the season), though there was no production of bricks. Brick kiln owners also made arrangements for migrant workers' transportation using their own resources and acknowledged the prompt support received from the district administration for issuing travel passes to stranded workers. As per BBFOA "*unlike many other sectors in many states of India, not a single workman from West Bengal went on foot to his native state or residence*".

As per BBFOA, despite the Central & West Bengal Governments promising a range of relief measures including the provision of food, medicines and essential items to migrant workers and despite demands from the brick industry for relief to help cover losses, no financial or material support was provided.

2.1.4 Tripura

A news report in the The Northeast Today, dated April 12 2020, refers to the statement by the Chief Minister in which he announced "*Tripura government will provide Rs 1000 and 20 days ration to 21,899 brick kiln migrant workers*". Tripura was one of the few states that provided such relief to migrant brick workers. Later a news report by UNI[9], dated May 16, 2020 reports that around 22,000 migrant workers working in brick kilns in Tripura and belonging to Jharkhand, Odisha and Bihar were waiting for transportation arrangements to travel back to their states. The workers finally left the state through special trains organised by the Government.

As per information received from The Tripura Bricks Manufacturers' Association, there are a total of 273 operational brick kilns in the state which employ 35,000 workers, including migrant and local workers. Normally, the operational period of brick kilns is from December to April. But due to the lockdown, production in most of industries had to be stopped around March 24 2020. Only a few kilns which had enough stock of coal and green bricks could continue the firing process. The annual production of bricks in the state is estimated to be 55 crores bricks per year, but there was a significant loss in production due to the lockdown. The Association sent two letters to the state government on April 22 and April 23 2020 which requested permission to sell bricks and to transport 5,000 tons of coal through Bangladesh. According to the Association, the brick industry provided cash of around ₹1.75 crore per week to workers, in addition to

[9] http://www.uniindia.com/22-000-migrant-brick-kiln-workers-hoping-to-return-home/east/news/1998448.html

providing food and health facilities. The State Association also donated around ₹1.6 crore to the Chief Minster Relief Fund, which was acknowledged by the Chief Minister on Twitter.

2.1.5 Telangana

The Deccan Chronicle[10] reported on May 29, 2020 of several instances of migrant brick kiln workers from Odisha being dumped at the railway station and other places by their employers. The Print carried two news reports on June 7 and June 9, 2020[11],[12], and reported the plight of migrant brick-kiln workers desperate to go home. The news reports also highlighted the discrepancies in the data regarding brick kilns and brick-kiln workers. The news reports, quoting the data accessed from Telangana's labour department, stated that there were 1,091 brick kiln units, with 55,145 workers. As per the Brick Kiln Owners' Association, there were more than 2,000 brick kilns. A human rights activist quoted in one of the reports reported that the total number of brick kiln workers impacted by the lock down was around 1.3 lakh. Most workers belong to the drought-prone districts of Nuapada and Kalahandi in Odisha. Brick kilns are spread across Telangana in the districts of Rangareddy, Sangareddy, Medchal, Karimnagar, Warangal, Nalgonda, Nizamabad and Yadadri Bhuvangiri.

As per CSOs, while a large number of workers left for their villages early during the lock down, workers in several kilns were forcefully prevented from leaving by the owners[13]. As per The Print report dated June 7, 2020, a human rights organisation approached the High Court which took note of the workers' plight and directed the state government to find out how many workers were still stranded, how many wanted to go home and to arrange for their transportation and food. As per a field official associated with a brick kiln project (supported by the Tata Trust,[14] which is working to improve working and living conditions of workers in brick kilns) in Karimnagar district, almost 80 percent of the brick kiln owners in the area provided the required support to workers and paid their wages. However, due to limited options to travel back home, brick kiln workers faced problems.

2.1.6 Rajasthan

A newspaper report published in Patrika[15], dated April 12, 2020 stated that the state government had allowed the operation of the brick kilns with certain conditions. According to the report, there were 1,500 brick kilns in the state mostly located at Jaipur, Hanumangarh, Ganganagar, Ajmer, Bikaner, Kota, Vijay Nagar, Ratngarh, Sikar, Bharatpur and Dausa districts. These kilns mostly use mustard stalk and lignite as fuel. However, information provided by the state association states that there are 3,000 brick kilns in Rajasthan, in which 4.5 lakh workers are employed.

Information provided by a CSO[16] working with brick kiln workers in Bhilwara and Ajmer highlights differences even between districts in a state. Bhilwara had an early severe COVID-19 outbreak and hence all commercial/ industrial activities including brick kilns were severely impacted for around one month. The Bhilwara cluster has local workers (short distance migrants) taking care of unloading and loading of bricks in the kiln, while migrant workers from UP/Bihar are engaged in moulding. The impact of lockdown was less in Ajmer where brick kiln operations continued. At the end of the brick kiln season, workers faced problems as trains were not operational and because of less production during the season (rains and COVID) Several of them were not able to do enough work to cover the advances given by the brick kiln owners. CSOs intervened to organise transport for stranded workers. A news report published in Sanjivini Today[17], dated June 8, 2020, reported the departure of the fourth "Shramik Special" train for Bhagalpur in Bihar carrying around 1,500 brick kiln workers. The report further stated that the state government not only purchased tickets for the train but had also pressed into service Rajasthan Roadways buses to transport workers from brick kilns to the station.

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[10] https://www.deccanchronicle.com/nation/in-other-news/290520/telangana-employers-leave-200-brick-kiln-workers-on-the-road.html

[11] https://theprint.in/india/odiya-workers-at-telanganas-brick-kilns-promise-never-to-return-owners-worry-about-survival/436517/

[12] https://theprint.in/in-pictures/stranded-at-home-outside-station-odiya-workers-in-telanganas-brick-kilns-wait-to-go-back/438488/

[13] Personal communication with Mr J John.

[14] Personal communication with Ms Mary Surin, Tata Trust.

[15] https://www.patrika.com/bagru-1/good-news-for-this-business-amid-lockdown-5992712/

[16] Personal communication with Sudhir Katiyar, Prayas.

[17] https://www.sanjeevnitoday.com/state/1456-brick-kiln-laborers-leave-for-bihar-by-special-train-happiness-on-laborers-faces/20200608/361013

2.1.7 Uttar Pradesh

Uttar Pradesh was one of the first states that allowed the operation of brick kilns within a few days after the lockdown was announced. In a news report published on May 3, 2020 in Amar Ujala[18], the Chief Minister lauded the operations of the brick kilns as no case of COVID-19 was reported from the brick industry and asked other industries to emulate the example of brick kilns and sugar mills.

As per the state association (UP Int Nirmata Samiti) the state has 12,500 brick kilns which employ 12.5 lakh workers. During the lockdown period, each brick kiln produced around 20 lakh bricks and paid around ₹40 lakh as wages to brick workers. As per the Association, the industry has demanded a relief of ₹25 lakhs per brick kiln from the government to cover the losses due to coronavirus, but has not received any assistance from the state or the central government.

A news report published on June 9, 2020[19] in The Indian Express, stated that the Uttar Pradesh Government had requested the Ministry of Railways to run 200 Shramik Special trains to transport around 3.5 lakh workers employed in brick kilns. The report further quoted an office bearer of the State Brick Kiln Owners' Association that this request was made by them and that their members would pay for the railway tickets. Another report published in Outlook[20], dated June 9, 2020 stated that the Chief Minister had directed officials to ensure that all migrant workers and labourers belonging to Chhattisgarh, West Bengal and Odisha still present at the state's brick kilns be sent home immediately after coordinating with kiln owners.

2.2 Outlook for the Industry for the 2020-2021 Season

2.2.1 Brick Demand

Various consulting companies with a specialisation in real estate have published their reports and views on the likely impact of COVID-19 on the real estate and housing sector. A report by Anarock Property Consultants Pvt Ltd, titled "COVID-19 Impact on the Indian Real Estate Sector"[21], provides an assessment of the likely impact on organised real estate industry located in urban centres. The assessment for residential construction, which is the largest consumer of bricks in the country, is important for this study. Some of the key observations and conclusions in the report are:

1. The sales of new flats came to a complete halt during the lockdown period due to restrictions on physical site visits, meetings, documentation and registration. This had a severe impact on the cash flow of the builders. The supply chain of the construction materials such as cement, steel and brick was also badly impacted and a part of the construction work force consisting of migrant workers went back to their villages.

2. During the last few years, almost 40 percent of the new residential project launches in the top seven cities of India have been in the affordable housing segment. Home buyers of this segment are mostly lower income group families, which are likely to be the most affected segment of the working population due to the pandemic. This segment has limited income and are typically work in jobs where "work from home" is not an option. Therefore, this segment will incur a loss in income and several families may be forced to postpone their decision to own a house.

3. Overall, the report estimates that in 2020, residential sales are likely to register an annual decline of around 25 percent to 35 percent. In addition, the estimate of launches of new residential projects during 2020 is set to decline by 25 percent to 30 percent, thus also impacting the demand for bricks in 2021.

Discussions with various brick sector stakeholders located in different regions of the country confirm that the demand for bricks is lower at the beginning of 2020-21. In Varanasi, the demand is estimated to be lower by 40 percent.[22] This is supported by the observation that despite the production of bricks dropping to just 60 percent of normal, the price of bricks has not increased. In Tripura the brick prices have

[18] https://www.amarujala.com/lucknow/chief-minister-yogi-adityanath-says-other-industries-should-be-run-on-lines-of-sugar-mills-and-brick-kilns

[19] https://indianexpress.com/article/india/coronavirus-up-wants-200-trains-to-send-brick-kiln-workers-back-6449459/

[20] https://www.outlookindia.com/newsscroll/unlock-1-up-govt-asks-districts-to-ensure-guidelines-are-followed/1860199

[21] https://www.anarock.com/research-insights/covid19-impact-on-the-indian-real-estate-sector

[22] Personal communication Mr O P Badlani, Prayag Clay Products Pvt Ltd.

dropped and the demand is expected to remain low during 2021. However, the brick industry has started operations hoping for increased demand in 2022 and beyond due to planned infrastructure projects.[23] In West Bengal as well, brick demand is lower than in previous years.[24] In Telangana, brick rates have not increased for several years, indicating a stagnation in demand.[25]

2.2.2 Workers' Availability and Wages

In Bhilwara district of Rajasthan[26], kilns began operation in the month of November and migrant workers returned. Instead of relying solely on middlemen, brick kiln owners from Bhilwara travelled to villages in UP and Bihar to bring workers back. Owners organised transport by road as trains were not operational. Overall, there seems to a shortage of migrant workers of about 10 percent to 20 percent, which may be due to the non-operation of trains or concerns regarding COVID. A slight increase in wages is also observed, with ₹510 to ₹520 being paid for moulding 1,000 bricks as against ₹500 for 1,000 bricks last season.

In Tripura[27] kilns started functioning in the beginning of December 2020. As trains were not running at normal frequency, in several instances owners organised buses to bring workers from Jharkhand, Odisha and Chhattisgarh. Here again, some shortage of workers and a slight increase in wages has been observed.

In Aligarh district[28] of UP, migrant workers, mostly moulders from Bihar, started coming to the kilns around October 2020. Brick kilns were preparing to start work a bit early in the season. In the absence of trains, workers have come to the kilns by bus on their own. No change in the wages has been seen. Till date, no COVID-19 outbreak has been reported from brick kilns. The demand for bricks seems to have increased, which may be due to the ban on the operation of brick kilns in the adjoining NCR districts by the National Green Tribunal (NGT).

In Varanasi[29] district of UP, workers started coming to brick kilns in November 2020 but the brick kiln operation was slightly delayed. Till early December, only 5 percent of kilns were operational and most were expected to become operational only by the middle of January 2021. In this region, a large number of moulders come from Bihar. While there has been some reduction in the number of migrant workers, there has not been any impact on the wages. Kilns starting work late may face some labour shortage.

In West Bengal, the situation regarding the availability of workers is different compared to some other states. As mentioned, in West Bengal, a large part of the workforce is local. The availability of workers is higher this year, possibly because West Bengal is also a source state for migrant workers and some workers are looking for job opportunities within the state. There is no increase in the wages.

Nuapada and Bolangir[30] in Odisha are source districts for migrant brick workers. Workers from almost 1 lakh families from these districts migrate for work during the December to June period. Almost 90 percent of these workers go to brick kilns, while the remaining 10 percent go to construction sites. Most workers migrate to brick kilns in Telangana, Andhra Pradesh and Karnataka. It is not necessary that the workers from the same family, or the same member of the family migrates every year. The number of workers migrating to brick kilns has slightly reduced this year due to concerns related to mobility and the pandemic. No changes in wages have been observed.

2.3 Conclusion: The Impact of COVID-19 on the Brick Industry

To summarise, the following points emerge regarding the impact of COVID-19 on the brick industry during the lockdown and during the current season of brick production.

- The coronavirus lockdown hit right in the middle of the brick production season and at a time when the brick

[23] Personal communication Ms Anima Debbarma, CEC.
[24] Personal communication Mr A K Tiwari, Vice President, AIBTMF.
[25] Personal communication Ms Mary Surin, Tata Trust.
[26] Personal communication Mr Sudhir Katiyar, Prayas.
[27] Personal communication Ms Anima Debbarma, CEC.
[28] Personal communication Mr J John.
[29] Personal communication Mr O P Badlani, Prayag Clay Products Pvt Ltd.
[30] Personal communication Ms Mary Surin, Tata Trust.

industry was already struggling with slowing demand, closure due to air pollution during winter months and production loss in northern states due to factors such as frequent rains. States such as Punjab, Haryana and UP allowed the operation of brick kilns early during the lockdown period and hence the brick production was impacted to a lesser degree, but was still lower than in previous years. On the other hand, brick production was severely impacted in states such as West Bengal, Tripura and Telangana. During this period, brick kilns also suffered a shortage of coal due to travel restrictions and shortage of cash because of the inability to sell bricks.

- Migrant workers working on brick kilns were managed quite well in states such as Punjab, Haryana and Uttar Pradesh and frantic reverse migration was not observed in these states. The wellbeing of the workers was mainly managed by the brick kiln owners. While state governments did collect information on migrant workers, little or no relief was provided. However, it seems that there was good coordination between the state governments and the brick kiln owners which led to the organisation of Shramik Special trains to carry migrant workers back to their homes in June after the end of the brick making season. In West Bengal the situation was well managed, partly because a large number of workers were local and also because of brick kiln owners proactively providing wages and organising transport for migrant workers.

- Reports from Telangana, Tamil Nadu and parts of Rajasthan and Gujarat indicate that these regions did witness desperate reverse migration and suffering of workers. There are several news reports of interventions made by NGOs, CSOs, local governments and courts to assist migrant workers from the brick industry.

- The brick industry received more coverage than usual in the media during this period, with two distinguishing features:

    - Several Chief Minsters and other senior political leaders acknowledged the role of the brick industry in their state economy, particularly in providing employment in large numbers.

    - For the first time news reports carried concrete information on the number of kilns and the workers employed in the industry. This also means that the crisis might have helped the state governments in getting a better picture of brick kilns and migrant brick kiln workers.

- The brick industry has suffered significant financial losses due to the pandemic. In West Bengal alone direct losses (incremental expenditure during the lockdown) are estimated at around ₹3,500 crore. The demand for bricks dipped during 2020 and is expected to remain poor in 2021. This means that the revenue and the profitability of the industry will suffer during two consecutive years. This will further prolong the slowdown that the brick industry has been witnessing for the last several years. The brick industry has not received any financial support or benefitted from the relief package announced for Micro, Small and Medium Enterprise (MSME) industries by the Government.

- Migrant workers are coming back for the 2020-21 brick making season in all the regions of the country. There are small shortages being reported in some areas, which indicates a small reduction in the number of workers willing to migrate during 2020-21. This may be partly explained due to reduction in mobility as well as concerns regarding the pandemic. However, no significant changes in wages have been reported.

CHAPTER 3

Recovery Strategy for the Brick Kiln Sector

Before a discussion of the recovery strategy, the views of some of the key stakeholders on immediate priorities and actions in the sector are presented along with a brief summary on the emerging environmental challenges and the trends in the brick market.

3.1 Views of the Brick Kiln Owners' Association

The Bengal Brick Field Owners' Association[1] provided its views on a relief package for the brick industry post-pandemic. The key points of their charter of demand are:

- Short Term (Immediate):
    - Grant relief of ₹15 lakh per kiln to reimburse the expenditure incurred on the wages, maintenance and transportation of migrant workers.
    - Special financial support of up to ₹1 crore as running capital limit without any collateral security. This is asked as the brick production during 2019-20 season reduced by around 50 percent due to the impact of Cyclone Amphan and the coronavirus lockdown and the cash flow in brick enterprises was severely impacted.
    - 50 percent of royalty paid by brick fields towards mining of brick earth to the government for the season of 2019-2020 should be appropriated to the same period as brick kilns has consumed only 50 percent of the brick earth. The balance 50 percent should be treated as advance for the 2020-21 season.
- Medium Term (1-3 years)
    - Under the combined impact of weather, the pandemic and growing pressure on environmental issues, mechanisation of the industry with cleaner technology is urgently needed.
    - Skill development is urgently needed. The association is ready to work with the government to come up with a comprehensive skill development programme. The skill development programme can start with focusing on skilling workers (firemen and loaders) in the operation of high draught zigzag brick kilns.
    - A special financial scheme for technical upgradation is needed for the brick sector. As per the Association estimates, a loan amount of ₹2 crore per kiln would be needed for the first phase of mechanisation and technology upgradation. The Association also has specific suggestions for simplifying the process of loan approval and reducing collateral requirements.
    - Capacity building and hand-holding support to owners so that they are able to take steps towards the formalisation of their enterprises as well as gain necessary knowledge regarding technology upgradation and mechanisation.

3.2 View of Organisations Working with Workers

The "National Struggle Committee for Brick Kiln Workers", which consists of 11 trade unions (TUs) from Punjab, Rajasthan, UP, Maharashtra, and Odisha, has put forward a

1 Personal communication with BBFOA and Mr A K Tiwari.

charter of demands dated October 24th 2018. Though these demands were made before the pandemic, the activities of the TUs and CSOs in 2020 are guided by the charter. As per the charter, the number of workers working in brick industry is estimated to be around 50 lakh with most of belonging to the poorest and most socially backward sections of the population. Some of the key demands are as follows:

- Wages: Workers in the brick industry, particularly moulders, get paid by piece-rate. Instead of piece-rate, minimum wages should be based on fixed hours of work. For example, based on a minimum wage of ₹18,000 per month, a moulder working for 8 hours and producing 500 bricks should be paid ₹692 per day. Wages should be paid on a monthly basis and directly into the bank account of individual worker.

- Social Security: Facilities such as provident funds, bonus and insurance should be provided to brick workers.

- Provision of basic facilities at brick kilns: Education for the children of brick workers, *anganwadi* and health facilities for mothers and young children and proper sanitation and housing should be provided.

- Employment of workers through a tripartite board on the model of *mathadi* workers in Maharashtra.

During discussion with the CSOs working with the brick industry workers it was learnt that till date, immediate priorities were wages, social security and access to government programmes. There is an absence of discussion on the impact on workers of sea changes that might take place in the industry due to environmental concerns and court judgements. Technology changes and skill development is not a priority so far. In discussions, the following points emerged:

- There is support for a structural transformation (mechanisation and consolidation) in the industry. The present structure of the industry is exploitative and the jobs in the brick industry can be characterised by the 3Ds - Dirty, Dangerous and Demeaning.[2] However a structural transformation is no guarantee for better working conditions or better protection for workers' rights. Thus, the structural transformation needs to be coupled with a programme to diversify the skill set of the workers as well as strengthening efforts to organise workers[3]. Structural transformation will require large capital investment and a redrawing of supply chains. The ownership of the brick enterprise may change and it would be advisable to look at both possibilities of the corporatisation of the brick industry as well as potential for cooperative enterprises (with existing owners working together).[4]

- In terms of immediate skill upgradation opportunities, skill training on zigzag kiln operation is seen as a starting point in states where brick kilns have recently adopted the technology. Here, the experience so far shows that it may be better to focus on reskilling the workers already employed in the industry, instead of skilling new workers who find it difficult to get absorbed in the industry.[5] In the longer term, skill training should go beyond the current Government skill development programme and should also be integrated with industrial training institutions[6].

- Workers and organisations working with workers currently are not a part of the discussions on technology changes and a structural reorganisation of the industry. It was felt that the Government has not created a body where such stakeholder interaction can take place[7].

- It was pointed out that different strategies are needed for larger brick kilns found in the Indo-Gangetic plains and for smaller kilns in other parts of the country. For example, there are 300 brick kilns in the Karimnagar district of Telangana with an average production capacity of around 12.5 lakh bricks per year. The prices of bricks have been stagnant for years and no significant change in kiln firing technology has taken place. In such places, in the

2 Personal communication Mr J John and Mr Sudhir Katiyar.
3 Personal communication Mr J John.
4 Personal communication Mr J John.
5 Personal communication Ms Anima Debbarma, CEC.
6 Personal communication Mr J John.
7 Personal communication Mr J John.

absence of technology upgrades there is no justification or need for skill development programmes for existing brick workers.[8]

3.3 Environmental Concerns and Regulations

The key environmental concerns regarding the brick industry revolve around three themes:

- **Air pollution and health issues**: Emission of particulate matter takes place from brick kilns due to the incomplete and inefficient combustion of fuel such as coal and biomass. A large number of brick kilns are located in clusters around urban centres in India, particularly in the Indo-Gangetic plains and have an impact on the local air quality.

- **Energy use and CO_2 emissions**: The greenhouse effect, a warming of the Earth's atmosphere is caused by the presence of carbon dioxide, and some other gases in the air. This global warming is leading to changes in the earth climate. The main reason for global warming is the increasing concentration of carbon dioxide in the earth's atmosphere due to the burning of fossil fuels such as coal and petroleum. Fossil fuels contain carbon which on combustion gives rise to carbon dioxide. Coal is the main fuel in brick kilns in India and the brick industry in India is estimated to contribute between 660 lakh tonnes and 840 lakh tonnes of CO_2 emissions per year, which is about 3 percent of the total CO_2 emissions of the country.

- **Use of soil from agricultural fields for brick making**: In India, brick production depends on surface clays such as clay obtained from fields, surface clay washed into water bodies and harnessed by desilting or clay harnessed from rivers in river delta regions. As a significant part of brick earth comes from agriculture fields there are concerns related to a loss in agricultural output and soil degradation.

Due to these factors, a variety of regulations have been formulated by the Government which includes emission standards for brick kilns, fly ash regulation to promote the use of fly ash as a replacement for clay in brick making and Environment Impact Assessments to regulate the mining of brick earth. However, most of these regulations have been formulated without adequate stakeholder consultations and are generally weak on the implementational aspects. In some cases, scientific studies done for formulating these standards/ regulations are not available in the public domain. In addition, the institutional capacity for the implementation of environmental regulation in states is weak. This results in poor compliance and has given rise to a large number of ongoing litigations, particularly before the NGT. If the industry has to comply with these regulations, it will have to adopt new technology and make new investments. However, there is no complementary plan or roadmap to support these actions. The industry has already invested around ₹2000 crores[9] in the upgradation of kiln technology from FCBTK to zigzag kiln technology. However, in the absence of a coherent and consistent environment policy, the brick industry is passing through a phase of uncertainty in which new investment decisions are negatively impacted due to growing environment policy risks.

3.4 Changing Trends in Brick Demand

It is also important to look at the changing trends in the building industry or the brick market. Some key points are:

- In metros and large urban areas, most housing construction is being carried out by large builders in the form of medium-rise and high-rise residential buildings. Several builders are either opting for monolithic concrete construction or are preferring low density cement concrete blocks (AAC blocks) because of faster construction and other benefits. For this segment, instead of solid clay bricks, larger and lighter hollow clay blocks are needed.

- The Green Building rating systems as well as the Energy Conservation Building Code also require use of bricks with better insulating properties.

- A niche market segment of value-added and premium brick products such as cladding tiles of various colours and exposed bricks of various colours, clay flooring and roof insulation tiles is developing.

8 Personal communication Ms Mary Surin.

9 8,000 kiln conversions @ ₹25 lakh per kiln during last 5 years.

- As per the previous census data, the rural market for solid clay fired brick has increased over the last several decades as more and more houses are converted from *"kutcha"* to *"pucca"* houses. Fired clay brick has replaced several traditional building materials such as stone, clay and bamboo.

3.5 Recovery Strategy for the Brick Industry

Based on the discussions of the previous sections, it is clear that any recovery strategy for the brick industry should take into consideration the expectations of the brick industry and the workers as well as the emerging environment regulatory framework and market dynamics. A recovery strategy based on five action points is suggested:

3.5.1 Dedicated Credit Scheme for the Brick Industry

The need for technology upgradation and appropriate mechanisation has been expressed by both brick kiln owners as well as by the CSOs working with brick workers. To meet environment regulations, mechanisation to improve resource efficiency is needed. The building market requires new products which can only be manufactured through mechanisation of some processes. As per BBFOA, loans up to ₹2 crores are required to take up the first phase of mechanisation. The first phase of mechanisation could focus on the use of clay mixing machinery and brick moulding machines, the further mechanisation of material handling and incremental improvements in the current brick kilns. However, accessing institutional finance is not easy for existing brick enterprises because of their inability to meet the requirements of the formal banking sector. Therefore, on one hand simplified processes will be required for such a credit scheme and on the other hand, a programme will be needed to support brick enterprises to operate as formal sector enterprises which will cover areas such as improved book keeping, tax compliance and registration with various government entities. Among the existing financial institutions, SIDBI or NABARD can take a lead in formulating such a credit scheme for the brick sector.

3.5.2 Promoting Indigenous Brick Machine Manufacturing Industry

For mechanisation, machines such as crushers, clay mixers, extruders, soft-mud moulding machines and coal feeders are required. While Southern India has a few MSMEs that make machinery for brick and clay tile manufacture, these are generally small and their products are not always suitable for varying requirements in different parts of the country. In North India, there are rural enterprises that make rudimentary clay mixing machinery but generally the quality and the performance is not very good. China and Europe are two largest producers of clay processing machinery in the world. Some of the Indian brick manufacturers have imported machinery from China. However, in China the size of a typical mechanised brick making plant is large, and the capacity of the machines generally exceed the requirements of an average Indian brick makers. Also, the after-sales service available for Chinese machinery is not good. In case of the European machinery the quality and after-sales service is better, but the machinery is expensive. One way out is to develop an indigenous brick machine manufacturing industry. If technology transfer and collaboration can be established and promoted between international companies and Indian MSMEs involved in machinery manufacturing, in a few years' time good quality indigenously manufactured machinery and after-sales service would be available for the brick sector. The Ministry for MSME could take a lead in this activity.

3.5.3 Diversified Skilling Strategy

The need for skill upgradation has been expressed both by the brick kiln owners as well as CSOs. Some immediate needs such as skill programmes for zigzag kiln operators have been identified. Any mechanisation and diversification to manufacturing new products would require skilled workforce to operate the machinery. Also, any mechanisation will also lead to reduction in the number of workers, and it is important that the existing workers are trained in a diversified skill sets so that they can be gainfully employed in other sectors. At present, skill development programmes for brick workers are not part of the National Skill Development Mission. There are no approved skill development programmes, approved training or assessing agencies through which such programmes can be delivered. A skill development strategy for the brick industry and workers engaged in manufacturing of bricks is needed. The National Skill Development Corporation (NSDC) and the Ministry of Skill Development & Entrepreneurship can be approached to develop such a strategy.

3.5.4 Comprehensive Environmental Policy

A comprehensive environment policy for the brick sector is needed which takes into account all the environment issues such as air pollution, CO_2 emission, use of soil from agricultural fields, utilization of waste and the production

of bricks with better insulation properties. The environment policy should allow regional variations. It should be simple to understand and implement, thus reducing the inefficiencies, corruption and litigation in implementation. Just like the emission policy for automobiles, the policy should have a clearly defined duration, thus removing uncertainty faced by potential investors while making investment decisions. The Ministry of Environment, Forest and Climate Change (MoEFCC) should be approached to take a lead on this issue.

3.5.5 Focussed Nationwide Programme to Improve Working and Living Conditions of Migrant Workers at Brick Kilns

There have been some recent initiatives, such as the programme supported by the Tata Trust, and the work carried out by organisations such as Prayas and CEC aimed at improving the working and living conditions of migrant workers at brick kilns. It is expected that after the COVID-19 migrant workers crisis there is a better understanding of the issues related to the working and living conditions of the migrant workers both among the Government as well as in the brick industry. This may be the right time to launch a focussed nationwide programme to improve the living and working conditions of migrant workers in brick industry. Such a programme can be developed around the Charter of Demands prepared by the "National Struggle Committee for Brick Kiln Workers" (*see* section 3.2).

3.6 The Way Forward

With an annual turnover of around ₹1 lakh crore, the brick industry is an important part of the non-farm rural economy. Clay bricks meet almost 80 percent of the walling material requirements of the country and are important for the growth of the construction sector. The industry provides employment to around 1 crore workers and hence it is important from an employment generation point of view. Around 1.5 lakh brick enterprises spread over the country provide rural entrepreneurial opportunities.

The brick industry has been plagued by several issues which are a challenge to its sustainability and growth. Air pollution concerns, carbon dioxide emissions and land degradation are the main environmental challenges. A reliance on seasonally migrant workers, poor working and living conditions of the workers and instances of bonded and child labour are the main social challenges. The industry continues to rely on traditional technology and only limited improvements have taken place in the technology. The main product remains solid clay brick and very few innovations have taken place in product development. The industry has been slow to change. One of the reasons is the informal nature of the industry but there has also been a complete lack of a coordinated policy and a programme for the development of the industry at the national and state level.

COVID-19 has brought to the fore issues of migrant workers and the sustainability of MSMEs. This provides an opportunity to take a fresh look at the brick industry and implement a comprehensive recovery and development programme for the sector to transform the industry over the next decade or so. This paper provides an outline of the potential recovery strategy. However, to take this forward there is an immediate need to create a brick industry platform where key stakeholders such as brick kiln owners, workers, CSOs and industry experts can interact and deliberate. They can together decide on which improvements and actions are feasible at their level (without government intervention) and which require interventions from the government. They can then approach various government ministries at the central and state government with a demand for formulating and implementing a comprehensive developmental policy and programme for the brick sector.

Annexure: Interviews

The author spoke on specific aspects with a few key persons. The author would like to sincerely thank all of them for sparing time and for providing valuable comments.

Name & Affiliation	Date/Topic of discussion/ quotes
Shri Om Prakash Badlani Chairman, Prayag Clay Products Pvt Ltd	November 28, 2020 Impact of COVID-19 and technology upgradation in brick industry. "The industry operations were not very impacted in Eastern Uttar Pradesh during the lock-down period due to the pro-active steps taken by the state government". "The overall demand for brick is lower by 40 percent in Varanasi at the beginning of the 2020-21 brick making season. There is some shortage of migrant workers and the expenditure on workers have gone up by 10 percent to 15 percent for the 2020-21 season". "Mechanisation is key to the development and growth of the industry. Mechanisation also brings in a routine for the workers and it would also help from moving away from the current piece rate wage system to monthly salaries".
Shri Ashok Kumar Tiwari Senior Vice President, All India Brick & Tiles Federation & Former President, Bengal Brick Fields Owners Association	November 29, 2020 Impact of COVID-19 and technology upgradation in brick industry in the context of West Bengal "Brick industry operations were badly hit during the COVID-19 lockdown and practically no bricks could be produced during the lockdown period. The lockdown was preceded by Cyclone Amphan, which had already badly impacted the brick production. Due to these reasons, brick production in several districts of West Bengal fell by almost 50 percent during the 2019-20 brick making season." "A clean environment is concern for all of us. No development can be appreciated at the cost of environmental damage. We from the brick sector are eager and committed to do our little bit by adopting green technologies. Most brick kilns in West Bengal have adopted zig-zag kiln technology and we want to focus on skilling our workers to operate these kilns more efficiently". "Mechanisation is necessary for the further development of the brick industry".

Name & Affiliation	Date/Topic of discussion/ quotes
Shri J John Former Executive Director, CEC	November 28, 2020 Impact of COVID-19 and technology upgradation in brick industry. "As per information available, migrant brick workers in Telangana and Tamil Nadu faced many problems during the lockdown. In some cases, they were forcibly prevented from leaving by brick kiln owners and there were also reports of assaults on them. Intervention from CSOs and judiciary was needed. On the other hand, the situation in Mathura (UP) was much better during the lockdown as the state government allowed brick kilns to operate and the workers were also not desperate to go back to their villages." "The current brick industry jobs are dirty, demeaning and dangerous. There is no justification in continuing with the current situation. I would favour a structural transformation and mechanisation". "Mechanisation does not necessarily mean an improvement in the protection of labour rights. A programme on mechanisation needs to be accompanied with a programme on diversified skill upgradation among workers as well as supporting efforts to organise workers". "Cooperative model of ownership could also be an option as mechanisation takes place leading to a consolidation in the brick industry"
Shri Sudhir Katiyar Prayas Centre for Labour Research & Action	November 28, 2020 Impact of COVID-19 and technology upgradation in brick industry. "Bhilwara had an early severe COVID-19 outbreak and hence all commercial/ industrial activities including brick kilns were severely impacted for 1 month or so. However, the impact of lockdown was less in Ajmer." "When the *Shramik Special* trains were operated in May, the brick kilns were still operational. In June when the brick kiln season ended, brick kiln workers faced problems as trains were not operational and because of less production during the season due to rains and COVID, several of them were not able to do enough work to cover the advances given by the brick kiln owners. NGOs and CSOs intervened to organise transport for stranded workers and a train to take workers to Chhattisgarh was also arranged." "A structural change in brick industry is badly needed. I personally favour mechanisation if it leads to such a structural transformation in brick industry." "We have been hearing about mechanisation for several years now but it has not taken place because we are told that the labour cost is very low and mechanised brick enterprises are not able to compete with the traditional brick enterprises". "With the focus on migrant workers during the COVID-19 pandemic, governments have become more sensitive and receptive to hear the issues of migrant workers, providing an opportunity to push for a change in the industry"

Name & Affiliation	Date/Topic of discussion/ quotes
Ms Anima Debbarma, CEC, Tripura	November 28, 2020 Impact of COVID-19 and technology upgradation in brick industry. "Brick production in Tripura was severely hit during the lock-down. Brick kilns also faced shortage of coal for firing the kilns" "Brick kilns in Tripura receive thousands of migrant workers from Bihar, Jharkhand and Chhattisgarh. Workers faced problems in travelling back home. The state government provided some cash and food relief to brick workers. Trains were organised for the workers." "Workers have come back for the 2020-21 season. As the trains are not operating, brick kiln owners have hired buses to transport brick workers. As per brick kin owners the demand for bricks is lower but they plan to operate the kilns as they foresee a larger demand in coming years due to planned infrastructure development in the state." "Zigzag kiln technology has received a very positive response from brick kiln owners in the state who have adopted the technology. Starting with 2 brick kilns, now there are 7 kilns that have adopted the technology. The Tripura government has also shown interest in disseminating the technology." "The experience of skill development in the project shows that it is difficult for new workers to enter the industry. On the other hand, workers who were already working in the industry and have undergone skill training seemed to have benefited from the training."
Ms Mary Surin, Tata Trust, Bhubaneswar	December 04, 2020 Impact of COVID-19 and technology upgradation in brick industry. "Workers from around 1 lakh families from Nuapada and Bolangir district of Odisha seasonally migrate and almost 80 percent of them go to brick kilns in Andhra Pradesh, Telangana and other southern states. Over the years the period of migration has reduced and now the workers start migrating only in the month of December" "Tata Trust has a programme in Karimnagar district where it has been working closely with brick kiln owners and the local government. In Karimnagar, 80 percent of the workers received support from the brick kiln owners and their dues were settled during the COVID-19 lock-down. Tata Trust and other organisations also organised food for the workers. Odisha government also played a pro-active role in receiving migrant workers" "The brick industry in Karimnagar consists of small brick makers. The district has around 300 kilns, each producing 10-15 lakh bricks per year. The brick prices have remained stagnant for years. There is a need to distinguish between the relatively larger brick kilns of north India and these small kilns and they require a different strategy." "Skill upgradation of brick kiln workers only make sense if a new technology is introduced in the sector."