



Recommendations for Worker Welfare: Brick Manufacturing Responses to Climate Change for Kiln Owners

September 2024ⁱ

Drawing on a series of ongoing analyses and discussions with former kiln workers in India and their lived experience of exploitation in the kilns and climate change, we have developed a series of recommendations to support workers, and advise kiln owners, policymakers and civil society organisations (CSOs) to ensure workers are supported and have access to support as they are increasingly affected by climate change. Our recommendations for improved worker welfare are grounded in research based on global climate models, current recommendations in the literature, and lived experience; and focus on four key climate hazards for workers 1) heat, 2) lack of access to water, 3) heavy rainfall, and 4) air pollution.

The recommendations in this briefing are specific to how kiln owners, can respond to climate change impacts on worker welfare.

This briefing is part of a four-part series; the other briefings for the series include those for kiln workers, policymakers, and CSOs.

Climate Change: An Industry Issue

Climate change has an impact on the environment and conditions workers face. These impacts will vary from place to place, but they are often felt most by vulnerable workers.

India is increasingly experiencing periods of extreme heat, drought, flooding, and air pollution.

In this briefing, a series of recommendations are provided to kiln owners to support their workers against four primary climate-related concerns.

These concerns are:

- **Heat Stress:** extreme heat exposure can lead to heat stress in populations, combining air temperature, humidity, and air pressure to provide an indication of the effects on human health.
- **Water Stress:** demand on water availability is compared against the amount that is available; when demand exceeds supply this leads to water stress, leading to potential shortages

and difficulties for communities and ecosystems.

- **Precipitation:** referring to rainfall levels, both increased (which can lead to flood events) and decreased (which can lead to drought).
- **Air Pollution:** emissions of particulate matter of 2.5nm in diameter (PM2.5) from the combustion of materials are monitored as they can increase the risks of adverse health outcomes through poor air quality.

These adverse climate impacts can lead to varied health outcomes (e.g., lung and heart issues, dehydration, long-term illnesses, and even death), and cause shifts in the number of hours worked, and income made by workers and their families.

Efforts to support workers should be a combined effort by the kiln owners, the local, state and national government, and through the support of CSOs.

Here we outline the key recommendations for how kiln owners can engage in to respond to climate change in the brick kiln industry.

Responding to Heat Stressⁱⁱ

- Kiln owners should provide covered, shaded areas for workers to rest and work.
- Ice and cold water should be provided to workers who are working during the day.
- Suitable accommodations should be provided as living quarters for workers, this includes accommodations with no tin roofs, adequate ceiling heights, and access to pukka facilities.
- Electricity should be provided for workers who shift their working patterns to night to fulfil the productivity demands of owners, without adding additional charges to the workers themselves.
- Kiln owners should ensure that they are following the required WASH facility obligations (following WHO guidance) and housing standards (as an adequate standard is considered a human right) for all workers.

Responding to Water Stressⁱⁱⁱ

- Movement of brick kiln production to more sustainable materials to limit the extraction of ground-intensive resources such as freshwater from aquifers to produce the bricks.
- Anti-salinification, and potable water kits should be provided to workers who do not have access to clean and potable drinking water.
- Kiln owners need to provide treated and filtered water (e.g., through water tanks) to kiln sites that is not from contaminated water sources and is separate to those used in the production of bricks.
- Workers should have access to appropriate levels of potable drinking water throughout the day to ensure wellbeing, reduce mental health impacts, and reduces tiredness.
- Kiln owners should ensure that they are following the required WASH facility obligations (following WHO guidance) and housing standards (as an adequate standard is considered a human right) for all workers.

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ⁱⁱ Heat Stress recommendations from National Disaster Management Authority (NDMA) Government of India (2024). [Heat wave: Do's & Don'ts](#) (Accessed 25 June 2024); WHO (2024). [Water, sanitation and hygiene \(WASH\)](#): World Health Organization (Accessed 28 August 2024); OHCHR. (2024). [The human right to adequate housing](#): UN Human Rights Office of the High Commissioner (Accessed 28 August 2024); and suggestions from a Research Advisory Group with Lived Experience in India (July 2024) and feedback from partners (August 2024).

ⁱⁱⁱ Tricoles, R. (2022). [The Emotional Weight of Water Stress](#) (Accessed 25 June 2024); WHO (2024). [Water, sanitation and hygiene \(WASH\)](#): World Health Organization (Accessed 28 August 2024); [The human right to adequate housing](#): UN Human Rights Office of the High Commissioner (Accessed 28 August 2024); and suggestions from a Research Advisory Group with Lived Experience in India (July 2024) and feedback from partners (August 2024).

Responding to Precipitation^{iv}

- Hygiene kits, safe and potable drinking water access, food supplies, and mosquito nets supplied to families.
- Provisions of safe shelter during periods of flooding and whilst flood water recedes.
- Establishment of early warning flood systems across all regions – including sending alerts to workers and families across the likely impacted regions. Through smartphone alerts, and radios. Kiln owners should alert all workers who may not have access to such phones where they are based on site.
- Brick kilns owners to establish flood-control and stormwater management within the kiln complex to minimise impacts to workers and their households based on site.
- Development of better drainage provisions at kiln sites for those who experience intense rainfall.
- Kiln owners should ensure that they are following the required WASH facility obligations (following WHO guidance) and housing standards (as an adequate standard is considered a human right) for all workers.

Responding to Air Pollution^v

- Move to sustainable fuels for firing in the kilns, including low carbon, recycled materials.
- Movement of brick kiln production to more sustainable materials to limit the extraction of ground-intensive resources which generate dust (e.g., to fly-ash production).
- Engage with technological and skills improvement schemes to support the transition of the kilns and workers towards more sustainable technologies.

^{iv} Caritas India (2017). [Northeast flood response: How the relief work started](#) (Accessed 24 June 2024); India CARE. (2009). [INDIA CARE relief workers reach flood affected families](#) (Accessed 24 June 2024); Reuters. (2018). [India wins praise for 'exemplary' flood relief as community pitches in](#) (Accessed 24 June 2024); World Health Organization. (2024). [Safety during monsoon and floods](#) (Accessed 24 June 2024); WHO. (2024). [Water, sanitation and hygiene \(WASH\)](#): World Health Organization (Accessed 28 August 2024); OHCHR. (2024). [The human right to adequate housing](#): UN Human Rights Office of the High Commissioner (Accessed 28 August 2024); and suggestions from a Research Advisory Group with Lived Experience in India (July 2024) and feedback from partners (August 2024).

^v World Health Organization (2019). [What to do when there is an air pollution alert](#) (Accessed 25 June 2024); Leeds City Council. (2024). [Protect yourself from air pollution](#): Clean Air Leeds (Accessed 25 June 2024); CCAC. (2020). [Improving worker skills to transform India's brick sector](#): UNEP (Accessed 28 August 2024); and suggestions from a Research Advisory Group with Lived Experience in India (July 2024) and feedback from partners (August 2024).