

Analysing labour on a warming planet

The link between labour productivity, human health and climate change gets scant attention, as the focus remains on economic and infrastructure resilience. The International Labour Organization's latest report points to the need to ensure that labour becomes climate proofed

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A vendor selling coconut water at a beach on a hot day in Mumbai on April 29. | Photo Credit: Reuters

The story so far: The International Labour Organization's (ILO) latest report, 'Ensuring safety and health at work in a changing climate', is an urgent call to ensure the future of labour is climate proofed and to address the constantly evolving work environment as the planet warms. The UN body states that well over a third of the world's population, are exposed to excessive heat annually, leading to almost 23 million work-related injuries. The ILO has sought an overhaul of existing Occupational Safety and Health-related (OSH) protections and laws, as they "have struggled to keep up with the evolving risks from climate change, resulting in worker mortality and morbidity."

What are the emerging hazards?

The ILO has identified six key impacts of climate change. They are — excessive heat, solar ultraviolet radiation, extreme weather events, workplace air pollution, vector-borne diseases and agrochemicals. These could lead to a range of health issues such as stress, stroke and exhaustion. The ILO mentions agriculture workers, workers in the construction sector, conservancy workers in cities and those employed in transport and tourism as most affected by climate change. It is also important to take note of the global rise in gig employment, which is highly heat-susceptible. It is also one of India's fastest growing worker communities, such as ride hailing app drivers, food and groceries deliverers, home repair workers like electrician, plumbers, and AC mechanics, and courier service employees. Gig workers constitute about 1.5% of India's total workforce, which is projected to grow to about 4.5% by 2030, according to a Nasscom study. In the Indian context, all these segments put together suggest that about 80% of the country's 2023 workforce of 600 million is susceptible to heat-related hazards. That is 180 million more than the entire current population of South America.

Which sectors are affected?

Agriculture is by far the most heat susceptible sector globally, particularly so in the developing world, where informal farm labourers work with little to no weather protection. According to the Union Agriculture Minister Arjun Munda, December 2023 replies in Parliament, 'about 45.76% of the total Indian workforce was engaged in agriculture and allied sector during 2022-23'. This is fast reducing, and about 20% down from the numbers working in agriculture three decades ago. The NSSO data of July 2018-June 2019 reveal that almost 90% of Indian farmers own less than two hectares of land, and earn an average monthly income of a little over ₹10,000 with farmers in the bottom three States of Jharkhand, Odisha and West Bengal earning as low as ₹4,895, ₹5,112, and ₹6,762. About half of India's farmers are indebted, they lack access to modern technology and latest research in agriculture. This leaves little room for them to invest in adapting to a warming planet. Many communities have already begun shifting work timings to early mornings and sun-down hours as a heat coping mechanism. The ILO advises more hydration points, breaks and rest shelters like in the country's plantations.

Agriculture is followed by India's sprawling **Micro, Small and Medium Enterprises (MSME) sector** that employs about 21% of the country's workforce, or more than 123 million workers. This sector of about 64 million enterprises, second only in size to China's MSME segment, contributes almost half of India's exports and more than a

third of the country's total manufacturing output. Yet, the overwhelming informalisation of the sector has meant little to no oversight of worker conditions by State Occupational Safety and Health (OSH) departments, leaving them highly vulnerable to heat hazards. This sector is followed by the building and construction segment which constitutes about 70 million workers, almost 12% of India's workforce. Workers here must cope with the urban heat island effect, as construction is a highly urban-centric economy, with rising growth in cities. Construction workers are also the most prone to physical injuries and air pollution related health hazards, like asthma, as several Indian cities are among the most polluted globally.

What laws address workplace safety?

A range of more than 13 central laws in India including, the Factories Act, 1948, the Workmen Compensation Act, 1923, the Building and Other Construction Workers Act, 1996, the Plantations Labour Act, 1951, the Mines Act, 1952 and the Inter-State Migrant Workmen Act, 1979, regulate working conditions across several sectors. These laws were consolidated and amended in September 2020 under one law — the Occupational Safety, Health and Working Conditions Code, 2020 (OSH Code, 2020). While several unions are critical of the new law for watering down safety and inspection standards, the Union government is yet to officially notify its enforcement. This has meant that unions and the judiciary continue to rely on the older laws to seek redress and accountability.

The Indian Factories Act defines a factory as an enterprise with “10 or more” workers, but those registered under this law are less than a quarter of a million based on the latest available data. The Labour Bureau in its 2020 report observes “an increase of 2.48% in the number of total registered factories that is, from 2,22,012 in the beginning of the year to 2,27,510 at the end of the year 2020.” This means the overwhelming majority of India's 64 million MSMEs are not registered under this law, and are therefore outside the purview of governmental inspections.

What do they say about heat hazards?

When it comes to dealing with occupational heat, the Factories Act broadly defines “ventilation and temperature” and leaves it to the States to decide optimal standards based on specific industries. However, these regulations were framed more than five decades back. For instance, Maharashtra framed its rules under the law in 1963, while Tamil Nadu did so in 1950. Both these rules mention a maximum wet bulb temperature of 30°C on a shop floor with a height of 1.5 metres and also mention provisioning

“adequate air movement of at least 30 meters per minute”. There are rules framed for “artificial humidification” disallowing this in cotton spinning or weaving factories, and provision of a comfortable “thermal environment” as a rest duration when a worker is exposed to high heat like in an iron furnace at a steel plant.

But these rules lack a breakdown of thermal comfort based on the level of activity, nor do they mention air conditioning, or other cooling alternatives. This is not surprising as the rules were framed much before air conditioning became common as a heat coping method. But in the developing world, air conditioning is still a luxury at homes and a significant expense for businesses. With a warming climate, the government predicts 50% of Indian homes would have ACs by 2037, but we lack these numbers for businesses, indicating an urgent need to update India’s Factories Act to incorporate technological changes in provisioning thermal comfort at businesses and add more categories of industries based on evolving production processes. Brazil for instance, mandates a stoppage of work “in cases where the WBGT (Wet Bulb Global Temperature) rises above 29.4°C for low intensity work, 27.3°C for moderate intensity work, 26.0°C for high intensity work, and 24.7°C for very high intensity work,” the ILO mentions.

Speaking about extreme heat and instances of friction with top corporate management, S. Kannan, the leader of the recognised union at the BMW assembly plant at Mahindra World City, Chennai (which represents more than 200 of the 350 employees), pointed to an instance at the company where workers demanded additional “lemon juice, buttermilk, and tender coconuts at the canteen” to ensure hydration last year. He claimed that the workers concerns were scoffed at by the management as “petty” issues for “high income earners”. Moreover, Mr. Kannan said that unions are pressured to submit not only from the management but from the State’s bureaucracy who point to the “difficulty” in getting top class industries to set up shop in Tamil Nadu. They accuse unions of disincentivising MNCs from their expansion plans.

What about other climate hazards?

While the OSH 2020 Code has attempted some remediation, lawyers point to a clause which allows online inspection of safety by enterprises that raise serious concerns of compromising a law that is already weak in implementation. “OSH departments are corrupt, and many inspectors are bribed by companies,” alleges Anna Mathew, a senior labour lawyer practising at the Madras High Court, “if the inspection, which was so far mandatory and been conducted physically by visiting a factory site henceforth be done digitally, the scant oversight that is available now will also be lost,” she says. Ms.

Mathew also points to the “randomised” inspection mentioned in the new law, as opposed to mandatory inspection of all registered factories, and the change in nomenclature of the inspector to a “facilitator”, watering down the prosecutorial powers of the bureaucracy, and replacing it with leniency to allow “ease of doing business”.

Amendments are also required to address the handling of effluents and byproducts disposal, as they could significantly impact human health based on temperature. Hindustan Unilever’s thermometer manufacturing plant in Kodaikanal, Tamil Nadu was shut in 2001, as it was found disposing mercury-laced glass waste in the centre of the town. *Frontline* reports that the company dumped 7.4 tonnes, leaving townspeople exposed to a highly toxic and vapourable chemical that causes a range of diseases from birth defects to several types of cancer. “This was our main case in the Madras High Court against the company,” tells S. Meenakshi, who was among a battery of lawyers representing retrenched workers and townspeople seeking redress for the serious illnesses caused across Kodaikanal that were attributed to Mercury exposure. A charge **denied by Unilever**, even as it reached an out of court settlement with workers in 2016 after a decades-long battle. “Had the case not been admitted in a British court, Unilever would not have come forward to settle the case. We would have had to file individual workmen’s compensation cases for each employee, which would have gone on for decades,” said Meenakshi. The colonial-era law Workmen’s Compensation Act, 1923, while still effective for individual physical injuries, like an accident at a workplace, does not provision for collective redress by workers for institutional negligence or failure. It might likely be insufficient to challenge illness or loss of wages due to reduced productivity on account of non-provisioning of thermal comfort at an entire manufacturing unit, Ms. Meenakshi observed.

Another significant occupational illness to be addressed in the coming decades would be the possible rise in silicosis cases. Silicosis is a fatal and incurable pulmonary disease caused by what is commonly called “lung dust”, the fine particulate matter emitted in the mines of coal, precious gems like quartz and diamonds and stone quarries. India is set to record its **highest coal production** ever in the financial year 2023-24 and has expanded the number of mines to meet rising power demand, leading to an increase in the probability of silica exposure. In 2016, the Supreme Court ordered the Gujarat government to pay ₹3 lakh as compensation to the families of 238 victims who died of silicosis while working at a quartz mine in Godhra. The Court blamed Gujarat’s bureaucracy for ‘neglecting’ to protect the adivasi migrant labourers who worked in the mines. This 10-year-old case brought to national attention the

vulnerabilities of poor migrant labourers, who are forced to undertake perilous work and are underpaid. Speaking to *The Hindu* Senior Advocate Colin Gonsalves who argued the case for a non-profit organisation that filed the Public Interest Litigation said, “it would be a dream if rules of the Factories Act are followed, but let alone that, many years ago it was revealed that our coal mines did not use dust elimination technology, which exposed thousands of workers to silica dust. How was this overlooked by government inspectors? And what is ₹3 lakh for a family when the breadwinner is no more?”

It would have been the job of inspectors under the Factories Act to inspect and enforce the provisioning gears that protect employees from silica exposure. While the T.N. and Maharashtra rules under the Factories Act elaborate on silica exposure prevention, they do not mandate the use of silica removal technologies at stone quarries or mines. Again, these technologies were not available when these rules were framed. Mr. Kannan says that, “labour conciliation, industrial safety and worker welfare are weak wings of the government. There are several vacancies, both at the inspector level, and at the clerical level, and our main concern is training, sensitisation and the competence of inspectors to conduct specialised inspections.” He spoke about instances where inspectors fear the “influence that private sector management, particularly, MNC’s wield” with State bureaucrats. However, a retired official from Tamil Nadu’s Directorate of Industrial Safety and Health, R. Jayakumar countered the charge of incompetence and unfilled job posts in the department he headed. He stated vacancies might have been temporary. “In fact, when the **BOCW Act** (Buildings and Construction Workers Act, 1996) was enacted, we formed a new wing and created new posts to look into its implementation,” Mr. Jayakumar said, referring to the law that regulates employment in the construction sector. But he admitted that climate change raises concerns about working conditions. “Most work is done in the open in the construction industry. So, if there is wind there is some respite, and if not, there is no alternative, other than ensuring better hydration, and cooling foods like cucumber etc. What could be done is to change the working hours, like begin work at 6AM and work till noon, like how farmers work, and return to work during the evenings from 4PM-6PM. Accordingly, there must be regulatory changes, and departmental sensitisation to ensure these are followed, and the BOCW Act must be amended,” Mr. Jayakumar said.

Often the link between labour productivity, human health and climate change gets scant attention, as the focus remains on economic and infrastructure resilience. The ILO report points to the need to ensure a universally accepted regulatory framework to climate-proof work and workers.