
PROVISIONS RELATING TO HEALTH, SAFETY AND WELFARE OF WORKERS UNDER THE FACTORIES ACT

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ABSTRACT

Factories Act, 1948: This is one of the fundamental pieces of labor welfare legislation in India. The Factories Act provides for health, safety, and welfare of workers employed in industrial establishments. In this paper, detailed provisions of the Act have been organized under three broad headings: health, safety, and welfare, and practical application through examples and case studies have been discussed. The health provisions include maintaining cleanliness, proper ventilation, lighting, waste disposal, and availability of drinking water and sanitary facilities. For example, examples such as the Sterlite Copper Plant closure in Tamil Nadu depict the aftermaths of non-compliance with waste management norms. The safety provisions ensure that workers are protected from occupational hazards by requiring fencing of machinery, regulated operation of pressure plants, and the appointment of safety officers in hazardous industries. Incidents like the Bhopal Gas Tragedy and the LG Polymers gas leak are critical reminders of the importance of these measures. The welfare provisions ensure facilities such as restrooms, canteens, childcare facilities, and first aid appliances are made available to workers. Real-life examples, such as the installation of creches in Tamil Nadu textile factories, highlight the positive impact of these provisions on worker well-being. Despite all progress, challenges remain in implementation, especially for SMEs, because of resource constraints and lack of awareness. The paper concludes by recommending stricter enforcement and modernization of laws alongside better awareness programs to improve these gaps. This article, with the help of legal analysis and real-world examples, points out the critical role that the Factories Act plays in the promotion of industrial harmony and the safety and health of India's workforce.

Overview of the Factories Act, 1948

The first cotton fabric factory was founded in Bombay in 1854. The pace accelerated, and by 1870 many factories had been established in Bombay, Nagpur, Kanpur, and Madras. The Industrial Revolution in Britain between 1760 and 1820 changed production technology. Employment at the factory had increased significantly. Two different classes had emerged: the capitalist class and the working class. Considering the lack of social measures and the poor condition and class of the workers, the Industrial Safety and Health Act was stipulated as the Factory Act of 1881, which was further modified and enhanced in 1948.

In the second half of the 19th century, large factories or industries emerged in India. In his report in 1872-73, Major Moore, the chief inspector of the cotton department in Bombay, first raised the issue of introducing legislation regulating working conditions in factories. The first formation Factories Act 1948 was initiated in 1881. Since then, the Factory Act 1948 has been modified and amended multiple times.

The Factory Act 1934 was passed, replacing all previous laws related to factories. The law was drafted in light of the Royal Commission's recommendations on labour. This law is amended accordingly. The experience of applying the Factory Act of 1934 reveals many shortcomings and weaknesses that impede the effective application of the law, and the need for major amendments to the law to extend protection provisions to a large number of small industrial facilities.

Therefore, on August 28, 1948, the Member Assembly passed the Factories act 1948 and integrated and amended the Factory Act. The law was approved by the Governor-General of India on September 23, 1948, and came into effect on April 1, 1949. The Factories Act 1948 passed by Parliament was approved on September 23, 1948¹.

The Constitution of India provide detailed provisions for the rights of the citizens and also lays down the Directive Principles of State Policy which set an aim to which the activities of the state are to be guided. On the basis of these Directive Principles as well as international instruments, Government is committed to regulate all economic activities for management of safety and health risks at workplaces and to provide measures so as to ensure safe and healthy

¹ Deskera Content Team, Factories Act 1948 - An Overview, *Deskera* (Dec. 25, 2024), <https://www.deskera.com/blog/factories-act-1948/>.

working conditions for every working man and woman in the nation. Government recognizes that safety and health of workers has a positive impact on productivity and economic and social development. Prevention is an integral part of economic activities as high safety and health standard at work is as important as good business performance for new as well as existing industries².

The main objectives of the Indian Factories Act, 1948 are to regulate the working conditions in factories, to regulate health, safety welfare, and annual leave and enact special provision in respect of young persons, women and children who work in the factories.

1. Total implementation of the provisions of The Factories Act, 1948 and other Acts & Rules applicable in the factories of the State through regular inspection at least once in a year and to generate awareness towards safety among the factory workers and management.
2. To bring down the number of accidents & dangerous occurrences in the factories.
3. To detect & eradicate occupational diseases and consequent compensation and rehabilitation of the workers/ victims.
4. To detect & eliminate child labour completely from the factories of the State³.

The Bhopal Gas Tragedy (1984) highlighted the critical need for strict regulations regarding worker safety and hazardous processes.

The Bhopal disaster revealed that expanding industrialization in developing countries without concurrent evolution in safety regulations could be calamitous. The catastrophe proved that seemingly local problems of industrial hazards and toxic contamination are frequently linked to the global market dynamics. However, the way in which the project was implemented suggests a double standard for multinational corporations operating in developing countries. Enforceable uniform international operating regulations for hazardous industries would have provided a mechanism for considerably improved safety in Bhopal. Techniques for corporate responsibility and accident prevention should be applied just as widely by national

² Ministry of Labour & Employment, Government of India, Safety, Health and Environment at Work Place, *Ministry of Labour & Employment, Government of India* (Dec. 25, 2024), <https://labour.gov.in/policies/safety-health-and-environment-work-place>.

³ Inspectorate of Factories, Government of Assam, Function and Objectives, *Inspectorate of Factories, Government of Assam* (Dec. 25, 2024), <https://ciflabour.assam.gov.in/about-us/detail/function-and-objectives-0>.

governments and international agencies in developing-world contexts as in advanced industrial nations. Specifically, prevention should include risk reduction in plant location and design and safety legislation.

The public health infrastructure of Bhopal was in shambles in 1984. Tap water was barely available for a few hours, and what was provided was terrible in quality. There existed no proper sewerage and thus, all the city's untreated sewage was collected and poured into two lakes nearby, where one of the lakes catered to drinking purposes. It had four main hospitals with inadequate physicians and hospital beds. There was also no mass casualty emergency response system in the city. The public health infrastructure existing in a place must be considered when hazardous industries decide on a location for manufacturing plants. Future management of industrial development requires that appropriate resources be devoted to advance planning before any disaster occurs. Communities that do not possess infrastructure and technical expertise to respond adequately to such industrial accidents should not be chosen as sites for hazardous industry⁴.

Health Provisions under the Factories Act

Cleanliness (Section 11)

Industrial hygiene has been defined as "that science and art devoted to the anticipation, recognition, evaluation, and control of those environmental factors or stresses arising in or from the workplace, which may cause sickness, impaired health and well-being, or significant discomfort among workers or among the citizens of the community." Industrial hygienists apply environmental monitoring and analytical methods for detecting the extent of worker exposure and apply engineering, work practice controls, and other.

Maintaining hygiene in factories is essential to ensure product quality, employee health, regulatory compliance, and operational efficiency. A clean environment prevents contamination, reduces the risk of illnesses, and minimizes machinery malfunctions. It builds customer trust and safeguards a factory's reputation while avoiding legal penalties. Key practices include regular cleaning, proper waste disposal, employee training, and routine

⁴ Edward Broughton, The Bhopal Disaster and Its Aftermath: A Review, 4 *Environmental Health* 6 (2005)

inspections. Hygiene not only ensures safety but also promotes sustainable operations, making it a cornerstone of responsible business management.

Work Analysis

A worksite analysis is an essential first step that helps an industrial hygienist determine what jobs and work stations are the sources of potential problems. During the worksite analysis, the industrial hygienist measures and identifies exposures, problem tasks, and risks. The most-effective worksite analyses include all jobs, operations, and work activities. The industrial hygienist inspects, researches, or analyzes how the particular chemicals or physical hazards at that worksite affect worker health. If a situation hazardous to health is discovered, the industrial hygienist recommends the appropriate corrective actions⁵.

In 2018, unsanitary conditions in a garment factory in Bengaluru brought attention to the critical importance of maintaining hygiene in industrial settings. Authorities responded with strict inspections and mandated compliance measures, emphasizing the potential consequences of neglecting cleanliness. Unsanitary environments not only jeopardize the health and safety of workers but can also lead to operational disruptions, regulatory penalties, and damage to a company's reputation. This incident proved a wake-up call to business operations to pay due importance to hygiene practices, safe operations, and maintaining healthier working environments⁶.

Disposal of Wastes and Effluents (Section 12)

Waste and effluents have to be disposed of in proper ways according to Section 12 to prevent harming the environment as well as health. Untreated waste leads to soil contamination, water pollution, air quality deterioration, and ecosystem impairment. Health issues include respiratory disease, skin conditions, and water-borne diseases in the case of workers and community members around it.

Preventive methods include waste sorting, setting of ETPs, encouragement towards recycling, and compliance with laws related to environment. Education and training also helps in proper waste disposal. Proper wastes disposal is very important for a company as hazardous waste

⁵ Occupational Safety and Health Administration, *Industrial Hygiene* (Dec. 25, 2024), https://www.osha.gov/sites/default/files/training-library_industrial_hygiene.pdf.

⁶ Fair Wear Foundation, *Life in Bangalore's Garment Factories*, India Country Study 2019.

disposal minimizes the risks from hazards, thus protecting the environmental surroundings and making it support environmentally friendly development .

Sterlite Copper Plant shut down permanently in June 2018 in Thoothukudi due to widespread demonstrations and charges against gross environmental misdemeanor. The plant was accused of improper disposal of hazardous wastes and effluents, leading to air, water, and soil pollution. Communities reported severe health impacts, including respiratory issues, cancer, and other illnesses, while the nearby water sources were rendered unsafe for consumption and irrigation.

The Tamil Nadu Pollution Control Board cited repeated violations of environmental laws that led to this order from the government of closure. In the case of Vedanta Ltd. vs State of Tamil Nadu and Others⁷, the Madras High Court in 2018 justified the shutdown over industrial concerns and prioritized environmental concerns and public health. This incident points out the grave consequences of ignoring environmental compliance and the need for industries to embrace sustainable waste management practices to avoid harm to ecosystems and communities.

Ventilation and Temperature (Section 13)

Proper temperature control helps avoid heat stress, fatigue, and discomfort. It also provides a comfortable working environment and ensures that no equipment is overheated and hence damaged. Such measures include ventilation systems, quality monitoring of the air, and regulated temperatures by an air conditioner or heating system. Only through these measures can one ensure a safe and efficient workplace. It also assists the workers to be healthy and increases their productivity.

Workers at a chemical factory in Gujarat got heat-stroked and became dehydrated because the temperature control in the factory was poor, and the ventilation was not proper. This incident led to the identification of a marked emergency for a better environment in the industry. The company installed air-conditioning systems and upgraded ventilation to maintain a safe and comfortable working environment. This case brings attention to the importance of Section 13 of industrial safety regulations, which mandates proper ventilation and temperature control. The very case of Rashtriya Labour Union vs State of Gujarat⁸ came about where the judgments

⁷ SPECIAL LEAVE PETITION (CIVIL) NOS 10159-10168 OF 2020

⁸ C/SCA/2588/2019

avored improving work conditions since a worker's health was affected through extreme temperatures, and it maintained that the workers' safety would be guaranteed once there was appropriate ventilation and management of temperature in that workplace so there could not occur heat-related medical issues. With these changes, the factory was taking the initiative to be in compliance with health and safety standards to create a healthier work environment for its employees.

Dust and Fume Control (Section 14)

Section 14 urges dust and fume control within the industrial working environment. Especially, these factors must be considered during construction, manufacturing, and chemical processing industries. High levels of industrial dust and fumes could lead to various health hazards; the common problems have been lung disease, lung cancer, and irritation in the skin.

These provisions also include control through the use of local exhaust ventilation systems, suppression methods of dust through water sprays, filtration systems, and cleaning routines. In addition, personal protective equipment like masks and respirators will help to reduce exposure. Workspace design should be geared toward minimizing the generation of dust. Implementing the following control measures guarantees businesses safe workplaces that have healthy and soundly safe work practices as it conforms to regulatory aspects in safeguarding safety requirements⁹.

The critical step, which improved workers' health and safety, came in the production facilities of Jindal Steel with the installation of sophisticated dust extractors. As a result, workers suffered too much from an excessive exposure of industrial dust without the advanced extractors. They manifested high incidence for respiratory diseases such as asthma and bronchitis, and the sophisticated dust extractors that captured airborne particles at their sources reduced the dusty levels in the air. This proactive measure not only improved air quality within the plant but also minimized the risk of long-term health issues among employees. As a result, workers reported fewer respiratory complaints, and overall productivity increased due to better health and a safer working environment. This successful application proves that investment in

⁹ Wymer, Fume and Dust Hazards: Control Measures in the Workplace, LinkedIn (Dec. 25, 2024), <https://www.linkedin.com/pulse/fume-dust-hazards-control-measures-workplace-ian-wymer/>

a dust control system is beneficial to workers and the general public and shows commitment toward their well-being and environmental safety standards.

Artificial Humidification (Section 15)

Section 15 dwells on the requirement for controlling humidity levels within the industrial environment in terms of worker health and to avert material damage. Individually, maintaining a proper humidity level can maximize the production process, equipment protection, and avoid various problems in industries that have textile, paper, or pharmaceuticals as primary sectors.

Excessive humidity can lead to mold growth, rusting of machinery, and discomfort for workers, while low humidity may cause static electricity, respiratory problems, and material degradation. Artificial humidification systems, like humidifiers and air conditioning, help maintain optimal humidity levels, promoting a safer and more efficient workplace. By adhering to these guidelines, industries can enhance worker well-being, improve product quality, and ensure the longevity of equipment.

In Coimbatore, cotton mills began using controlled humidification systems to improve indoor air quality and protect the health of workers' lungs after compliance checks. Workers had previously experienced respiratory problems caused by dry, dusty working conditions that exacerbated asthma and bronchitis. Through humidification, the mills maintained ideal humidity levels and reduced airborne dust, hence protecting workers' health. This resulted in fewer complaints about health and better working conditions. In *M.C. Mehta v. Union of India* (1987)¹⁰, wherein the Supreme Court laid down the importance of workers' protection from environmental hazards, including pollution in industries. Even though the case was concerning air pollution, the judgment reiterated that there is a principle of industrial safety that industries have to take all necessary measures so that the workers employed with them are safe and well. This is exactly what was enacted by the cotton mills of Coimbatore in light of this, revealing a fact that controlled humidification is a very important aspect needed to maintain healthy working atmospheres and adhere to certain health and safety requirements.

Overcrowding (Section 16)

Overcrowding in the workplace, as emphasized in Section 16, presents numerous challenges

¹⁰ SCC: 1987 SCC (1) 395

that can have negative impacts both on employees and organizational efficiency. Providing enough space is not only a matter of law but also important for promoting a healthy, productive, and safe work environment.

When the workspace is small, employees may feel cramped and experience higher levels of stress, lower morale, and decreased job satisfaction. Cramped conditions can disrupt workflows, make it difficult to concentrate, and elevate risks of workplace accidents, such as tripping over misplaced items or struggling with obstructed emergency exits. Overcrowding may also lead to ergonomic issues, as employees are forced to work in uncomfortable or poorly arranged spaces. Sufficient workspace ensures employees have enough space to operate without any restrictions and encourages them to work collaboratively, creatively, and focused. It ensures proper ventilation, lighting, and movement, which in turn promote a healthier working environment. It also aids the compliance of legal standards that decrease the chances of penalty or liability for the organization.

In January 2019, contract workers at Samsung's Noida facility initiated a strike over demands related to overtime payment, provision of food, and the appointment of a welfare officer. The protest underscored issues concerning worker welfare and workplace conditions. The situation was resolved after interventions, but it brought attention to the working conditions in such facilities.

Lighting (Section 17)

Proper lighting is crucial for workplace productivity and safety. Adequate illumination minimizes risks such as eye strain, fatigue, and accidents while enhancing focus and well-being. Poor lighting can obscure hazards and reduce efficiency, while overly bright or glaring lights cause discomfort¹¹. The employer should provide balanced task-specific lighting and introduce natural light wherever possible for comfort and compliance in the work environment. Section 17 adherence leads to better working conditions, improved productivity, and a happier workforce.

An automobile plant in Pune took action to revamp its lighting system after a worker filed a complaint citing eye strain. This initiative underscores the importance of proper workplace

¹¹ Delaoliva, *The Importance of a Workspace*, Delaoliva (Jan. 23, 2020), <https://delaoliva.com/en/the-importance-of-a-workspace/>.

illumination for employee health and productivity¹². The plant was, therefore, compliant with Section 17 of the Factories Act, 1948, which mandates sufficient lighting in workspaces. The case further illustrates that regular assessments and improvements should be made in order to ensure a safe and comfortable working environment.

Drinking Water (Section 18)

Section 18 of the Factories Act, 1948, demands provision of clean and potable drinking water for all the employees. The availability of drinking water is necessary to keep the body healthy, reduce the risk of dehydration, and enhance productivity at the place of work. Employers should ensure water quality by conducting regular checks and provide drinking water facilities at easily accessible locations. This does not only comply with legal standards but also shows commitment to the welfare of employees¹³.

Dabur's manufacturing units saw improved worker productivity after implementing purified water systems. Providing clean, safe drinking water is essential for maintaining employee health, reducing absenteeism, and ensuring focus. By ensuring access to purified water, Dabur enhanced overall workplace conditions, demonstrating the positive impact of investing in basic employee welfare. This initiative aligns with Section 18 of the Factories Act, which mandates the provision of clean drinking water, contributing to both legal compliance and a healthier, more productive workforce.

Latrines and Urinals (Section 19)

This means privacy, dignity, and comfort for males and females at the workplace, bringing in a much healthier and respectful atmosphere to the workers. The facilities have to be maintained clean and hygienic by employers from time to time to save health issues as well as their wellbeing. Standards set a workplace as clean, safe, inclusive, and complaint. Improving lavatory facilities after conducting a historic inspection of textile mills in Tirupur improved the hygiene of women employees. The problem of poor sanitation has been longstanding and negatively impacts the health and dignity of female employees¹⁴. This step

¹² International Labour Organization, *Eye Health and the World of Work* (2023)

¹³ Eureka Forbes, *Importance of Commercial Water Purifiers for Workplace*, *Eureka Forbes* (Dec. 25, 2024), <https://www.eurekaforbes.com/blog/importance-of-commercial-water-purifiers-for-workplace.html>.

¹⁴ Dennis S. Jesudasan, Report on Sanitation Facilities for Women in Textile Units Sought, *The Hindu* (Sept. 14, 2019), <https://www.thehindu.com>.

has addressed the problem. The amendment is in conformity with Section 19 of Factories Act 1948, that urinals and latrines for men and women must be separate and clean. These efforts reflect continuous development of working environment and regulatory adherence, thus securing a safer and friendly workplace for females.

Spittoons (Section 20)

The section 20 of the Factories Act, 1948, governs the provision for spittoons in order to prohibit the unhygienic habit of spitting. Spittoons must be kept clean and accessible to ensure hygiene and prevent the spread of diseases, especially in areas where employees gather. It thus fulfills the requirement by showing that employers contribute to the healthiness of the environment, reduce the risk of contamination, and promote a healthy life among workers.

Inspections of tobacco factories in Karnataka led to a significant reduction in spitting incidents after the introduction of well-maintained spittoons. This initiative helped curb unhygienic practices in the workplace, promoting better hygiene and health standards. By complying with Section 20 of the Factories Act, 1948, which mandates the provision of spittoons, these factories contributed to a cleaner and safer work environment, minimizing the risk of disease transmission and improving overall worker well-being.

Safety Provisions under the Factories Act

Fencing of Machinery (Section 21)

Section 21 of the Factories Act, 1948, states that hazardous machinery must be adequately fenced or guarded so that accidents are prevented and workers are not put at risk. This includes all machinery that may cause injury due to entanglement, cutting, crushing, or other dangerous movements.

The fencing or guarding must be designed so that no worker is able to reach the moving parts or other hazardous portions of the machinery. There must be provision for its proper maintenance and periodic inspections, and it should also be ensured that such guards are in place at all times the machinery is operating.

Complying with this section results in creating a much safer working place by minimizing potential serious injuries as well as assuring better conditions of employees. This would not be

just about obeying a law, but rather an actual way of keeping workplaces operating with high risk machinery away from dangerous harm.

In case of **Bharat Heavy Electricals Limited v. Employees' State Insurance Corporation (2011)**¹⁵, the issue of unsafe working conditions, including inadequate guarding of machinery, was discussed. The court held that the employer has a duty to ensure that machinery is adequately safeguarded to prevent accidents. The lack of proper guarding could lead to liability for injuries, and this case reinforced the need for compliance with safety regulations under the Employees' State Insurance Act.

Work on Machinery in Motion (Section 22)

Section 22 of the Factories Act, 1948 provides that no worker shall be allowed to work on any machinery in motion unless adequate safety devices are provided. It provides that machinery shall be effectively fenced or guarded to prevent accidents. Work on moving machinery shall be avoided unless it is stopped and safely locked. Moreover, workers should be instructed in safety measures. The idea is to minimize the chance of injury by making machinery safe to work with and keeping workers aware of hazards.

An untrained worker at a West Bengal jute mill suffered injuries in a mishap while operating the machinery. This was critical in demanding proper training and supervision in industrial operations. It resulted in new policies, supervised operations, and the training of workers before being allowed to handle machinery. These policies ensured that the workers were well prepared in handling the machinery without risk of accidents and hence enhanced the safety at the workplace. The case highlights employer responsibility to provide the workers with proper training and oversight¹⁶.

Employment of Young Persons on Dangerous Machines (Section 23)

Section 23 of the Factories Act, 1948 prohibits employment of young persons (under 18) on dangerous machinery except when they are duly trained and supervised. It aims at protecting young workers from the risk of injury by ensuring that they are qualified to handle hazardous machines. It stresses the need for proper training and supervision before young persons are

¹⁵ Appeal (civil) 1271 of 2008

¹⁶ *Analytical Study on Causes of Industrial Health Hazards in Jute Industry and Possible Management Therein for Improvement of Industrial Safety*, 6 *Int'l J. of Research in Eng'g & Appl. Sci.* 1 (2016)

allowed to operate such machinery. The provision ensures safety and prevents under trained workers from being exposed to dangerous work conditions.

In the case of State of Maharashtra v. The Bharat Forge Co. Ltd. (2001)¹⁷ involved the employment of minors on dangerous machines. The court held that employing minors on hazardous machinery without proper safeguards was illegal and punishable under the relevant provisions of labor laws.

Hoists and Lifts (Section 28)

Section 28 of the Factories Act, 1948 prescribes the safe operation of hoists and lifts in a factory. These should be well constructed, well maintained, and fitted with essential safety devices such as emergency brakes and load indicators. Hoists and lifts must always be operated only by competent and competent operators. Accordingly, they will need to go through regular checking and testing to establish that they indeed operate safely. This provision leads to preventing an accident in industries that relate with hoists or lifts in moving heavy loads.

In 2021, a lift malfunction in the Pune pharmaceutical plant resulted in several worker injuries for which the unit was penalized. The incident highlighted the need to maintain hoists and lifts appropriately in industrial sectors. The mishap, which caused injuries, led to the plant being penalized for non-compliance with safety standards as stipulated by the Factories Act, 1948, particularly Section 28, which requires regular inspection, maintenance, and safety checks for lifts and hoists. This case underlined the immediate need for pharmaceutical and other industrial plants to maintain their equipment to avoid accidents and ensure the safety of workers.

Pressure Plants (Section 31)

Section 31 of the Factories Act, 1948 pertains to safety operation of pressure plants used in various industrial processes. The section stipulates the provision of safety devices like pressure gauges, relief valves, and automatic shut-off systems so that accidents arising from overpressure or mechanical failure are avoided. It monitors and controls the pressure level, thereby providing safety to the workers and not damaging the equipment. Maintenance and

¹⁷ WRIT PETITION NO. 1610 OF 2009

inspection of these safety devices are also regularly necessary to ensure that they operate correctly, reducing the probability of accidents in a pressure plant.

It was only in 2020 that the explosion at a pressure plant in Vizag¹⁸ brought to light the critical importance of proper inspections and maintenance. This incident brought into focus the imperative need for strict adherence to safety standards, including installation and proper functioning of safety devices like pressure gauges and relief valves, as provided under Section 31 of the Factories Act, 1948. This explosion emphasized that constant watch and care over pressure plants are important factors that can prevent accidents or the loss of workers from it.

Hazardous Processes (Sections 41A to 41H)

Sections 41A to 41H of the Factories Act, 1948 give protection to workers while working in dangerous environments. Protective devices, proper ventilation, and periodic medical examination of workers engaged on dangerous processes must be arranged by employers. According to law, preparatory measures for emergency conditions also include safety appliances and employees' training in risk and safety measures. This will reduce health hazards and accidents that may occur because of industries involving some hazardous substance or process.

The LG Polymers gas leak in Andhra Pradesh (2020) has brought to the fore the critical need for strictly following safety measures for hazardous processes. The tragic accident, which resulted in the loss of several lives and widespread damage, has shown the dangers posed by industries dealing with dangerous chemicals¹⁹. It underlined the enforcement of Sections 41A to 41H of the Factories Act, 1948. The sections make the employer responsible for ensuring safety measures, medical observation, and arrangements for emergency in dangerous surroundings. This incident also created demands for stronger regulatory controls and proper working of the provisions related to labor protection so that such disasters should not happen in the future.

¹⁸ Umamaheswara Rao, Rise in Industrial Accidents in Vizag a Cause for Concern, Times of India (Aug. 22, 2024), <https://timesofindia.indiatimes.com>.

¹⁹ DTE Staff, Visakhapatnam Gas Leak: LG Polymers Neglected Safety Norms, Finds Govt Probe, Down to Earth (July 7, 2020), <https://www.downtoearth.org.in>.

Safety Officers (Section 40B)

Section 40B of the **Factories Act, 1948** requires factories with 500 or more workers, or those involved in hazardous processes, to appoint a qualified **Safety Officer**. The officer's duties include conducting safety inspections, identifying hazards, ensuring worker training, and promoting safety awareness. This provision ensures that larger factories have dedicated personnel to oversee health and safety, helping prevent accidents and ensuring compliance with safety regulations.

After a fire incident in 2016 at Infosys BPO, its safety officers ensured the entire fire safety norms were abided by. The inspection was done very meticulously. All the possible hazards, which could have caused incidents, were identified and suitable corrective measures were taken, thereby improving the fire safety protocols. They ensured all the safety equipment, that is, fire extinguisher, alarm, and other emergency exits, were strictly up to code. In addition, they conducted training on fire safety procedures among the workers. This was pro-active, as guided by the appointment of qualified safety officers under Section 40B of the Factories Act, 1948, thus averting future mishaps and reinforcing the message about the importance of safety in the workplace.

Welfare Provisions under the Factories Act

Washing Facilities (Section 42)

Section 42 of the Factories Act, 1948 mandates for the provision of accessible, adequate washing facilities to factory workers. These should be clean, separate for the two sexes, and in keeping with the number of workers available. They should be properly accessible during working hours. They should be kept neat and clean. This proviso will ensure hygiene, especially after exposure to deleterious substances, thus securing health, safety, and well-being at work.

Inspection reports from a **Lucknow leather factory** revealed significant improvements in hygiene after the installation of washing stations, as required under **Section 42** of the **Factories Act, 1948**. The addition of accessible and adequate washing facilities allowed workers to maintain better personal hygiene, especially after working with chemicals and materials in the leather industry. The reports highlighted a reduction in health-related issues and an overall

improvement in worker safety and well-being, demonstrating the positive impact of complying with hygiene and safety regulations in industrial settings.

Facilities for Storing Clothes (Section 43)

Section 43 of the Factories Act, 1948 requires that the factories shall provide safe and clean room or rooms for the workers to keep their clothes and other personal belongings. Such rooms should be clean, spacious and accessible to the workers, so that their belongings are not damaged or stolen, especially in those workplaces where clothes may come into contact with harmful substances. This provision will help the workers to be healthy and to maintain a hygienic and organized working environment.

In the case of Union of India v. Delhi Cloth & General Mills Co. Ltd. (1963)²⁰ involved the inspection of factory conditions, including the provision of storage facilities for workers' belongings. The court made it clear that the provisions regarding all worker welfare provisions, including the availability of proper facilities for the storage of clothes and personal items, should be followed to maintain safety and hygiene. These cases bring out the fact that the provisions under the Factories Act, 1948, concerning workers' welfare, like proper storage of personal belongings in factory settings, need to be met.

Sitting Arrangements (Section 44)

The Factories Act, 1948 has provided Section 44, which prescribes that employers shall provide suitable seating to the workers concerned with jobs that can be undertaken from sitting. This provision would help in reducing workers' standing for long periods and thereby prevent their fatigue and promote comfort and health. Providing appropriate seating to the workers would enhance not only their productivity but also wellbeing while doing jobs involving repetitive tasks or long hours.

The workers in the factories had reported health problems after the ergonomic studies, and Odisha's packaging factories offered sitting arrangements to the workers under Section 44 of the Factories Act, 1948. Long hours of standing had caused fatigue, discomfort, and other long-term health problems according to the studies. Suitable seating was offered to the workers in

²⁰ 1963 AIR 791, 1963 SCR SUPPL. (1) 586, AIR 1963 SUPREME COURT 791

the factories, which helped them improve their posture, reduce physical strain, and increase comfort overall. This initiative benefited the workers in terms of health and contributed to increased productivity and better conditions in the factories.

First Aid Appliances (Section 45)

The Section 45 of the Factories Act, 1948 governs the provision for the factories to provide adequate first aid appliances and medical facilities on-site. This includes well-stocked first aid kits, a medical room with necessary equipment, and trained first-aid personnel, especially in larger factories. The provision ensures that workers receive immediate medical attention in case of accidents or health emergencies, promoting a safer and healthier work environment.

At Hindustan Unilever's factories, there was quick response to injuries through well-stocked first aid boxes in accordance with Section 45 of the Factories Act, 1948. It provided ample first aid supply that helped in immediate treatment of minor injuries, reducing the chance of complications and ensuring worker safety. This was proactive and kept the work environment safe. It decreased downtime due to workplace injuries. It, therefore, supported the need for easily available medical facilities within industrial settings.

Canteens (Section 46)

Section 46 of the Factories Act, 1948 stipulates that factories employing a specified number of workers should have a canteen with hygienic and affordable meals. The canteen must be built in accordance with health and safety standards so that food served is nutritious and safe for the workers. It should be designed in such a way for the support of workers' well-being, providing them with a clean, convenient and cost-effective meal option during their work hours to support their overall health and productivity.

The introduction of subsidized canteens in Tata Steel plants had enhanced the satisfaction of workers with meals that were both cheaper and healthy. Satisfying the requirements of Section 46 of the Factories Act, 1948, the canteens are devised to surpass hygienic levels and to provide healthy meal facilities for its workers. This further helped workers stay healthy but supported an effective work environment with improved morale and productivity among all the plants.

Shelters, Restrooms, and Lunchrooms (Section 47)

Section 47 of the Factories Act, 1948 requires factories to provide clean and comfortable spaces, such as shelters, restrooms, and lunchrooms, where workers can take breaks. These facilities help workers rest and recharge during long shifts, promoting their health and well-being. By offering designated areas for relaxation and meals, Section 47 ensures a positive work environment and improves worker productivity.

The Infosys campus is also equipped with better toilets and is the benchmark for employee welfare in accordance with Section 47 of the Factories Act, 1948. The company took care of cleanliness, comfort, and accessibility in restroom facilities for employees, thus providing them with a clean space for breaks. It not only promoted worker welfare but also reflected Infosys's efforts to create a positive and supportive work environment, hence improving overall employee satisfaction and productivity.

Creches (Section 48)

Section 48 of the Factories Act, 1948, requires that where 30 or more women employees are employed in a factory, the said factory shall provide crèche facility for children under the age of six years. Creche facilities for children shall be kept clean and hygienic so that it may keep them safe. Balancing the needs of working women between their workplace and home through gender equality helps motivate women to work and join the labour force.

In "A Study of Problems Faced by Women Employees in Tirupur Apparel Industry,"²¹ critical role for working mothers are also highlighted creche facilities. This fact has been put across that without child care options, absenteeism increases and so does the stress in women workers. The creation of creches in some factories improves work-life balance, decreases absenteeism, and increases job satisfaction. The study advocates for the wider implementation of creches in accordance with Section 48 of the Factories Act, 1948, which requires childcare facilities for factories employing 30 or more women, to promote gender equality and support women's participation in the workforce.

²¹ Mrs. D. Anita Rachel & K. Mohana Priya, A Study of Problems Faced by Women Employees in Tirupur Apparel Industry, 3 Int'l J. Novel Res. & Dev. (IJNRD) (Feb. 2018)

Welfare Officers (Section 49)

The section 49 of the Factories Act, 1948, lays down that a factory with specific numbers of workers shall have welfare officers. Welfare officers are those officers who take care of the total well-being of workers through various welfare activities, including health and sanitation, safety, and redressing the grievances. They are critical in the promotion of a healthy work environment, better satisfaction of workers, and ensuring compliance with labor laws. The presence of welfare officers can be used to address workers' needs and concerns for a more productive and supportive workplace.

The welfare officers who worked at Maruti Suzuki played an important role in the resolution of labor disputes and improved working conditions in the factories. They ensured that welfare measures like health care, safety, and grievance redressal were in practice in the industry. This went hand-in-hand with the proactive approach to worker problems, and helped reduce tensions, enhance job satisfaction, and comply with welfare regulations - both of immense importance as reflective dimensions of the welfare officers mandated under Section 49 of the Factories Act, 1948.

Impact of Provisions on Worker Welfare

The Factories Act 1948 has ensured a greater betterment in the welfare of employees through improvement of safety measures and working conditions. It includes safeguards such as provision for machine guarding, fire precaution, accident report, which are the prime methods to prevent hazardous situations in a workplace. Provisions in this Act for working hours regulation, leave, hygiene facilities, and welfare facilities include rest rooms, canteen, crèche etc., therefore keeping the contentment of workers on priority. It also prohibits child labor and requires regular inspections to ensure legal rights and ethical practices. All these measures result in a safer working environment, better morale and higher productivity giving long-term benefits to both the workers and employers.

The Factories Act of 1948 has been helpful in reducing the number of workplace accidents and health problems by implementing strict safety and health standards. The Act includes protective measures for machinery, regular maintenance, and proper training for workers handling hazardous processes. This Act requires factories to maintain hygienic conditions, adequate

ventilation, lighting, and access to clean drinking water, thus reducing exposure to occupational health hazards.

Special provisions cover dangerous operations in certain industries, and safety measures are taken to prevent accidents and be prepared for emergencies. Compulsory reporting of accidents and their investigations help determine the risks and take preventive measures. On-site first aid and medical facilities provide immediate care to reduce the effects of injuries in the workplace. These regulations protect the workers from accidents and diseases and create a safety environment, promoting trust, improving their productivity, and enhancing the overall welfare of workers.

In most of the Indian companies have been able to earn prestigious ISO certifications due to their thorough adherence to the health and safety standards as per the Factories Act of 1948, mostly on issues of workplace safety and quality management. Organizations are recognized with certifications like ISO 45001 (Occupational Health and Safety) and ISO 9001 (Quality Management) for maintaining excellent standards of health, safety, and operation.

These standards show a commitment to the welfare of workers, reduction of hazards at workplaces, and effective safety measures. The implementation of these practices will not only make Indian companies comply with the law but also enhance their reputation globally, employee morale, and competitiveness in international markets. These certifications are an indication of the growing importance India places on workplace safety and sustainability.

Challenges and Recommendations

Compliance gaps in SMEs

Small and medium enterprises of India are seriously faced with the challenges of implementing the provisions of the Factories Act 1948, particularly in the context of workplace safety and worker welfare. The biggest challenge is financial. The SMEs have limited budgets and it is challenging to provide funds for the implementation of the necessary safety measures, welfare facilities, and compliance infrastructure required by the Act. This has seen most of these enterprises without awareness of the legal obligations they have to ensure their workers' health, safety, and well-being. Not helping are the infrequent inspections and lack of enforcement.

Since most large industries have dedicated compliance teams, SMEs do not have the resources

to effectively monitor and manage compliance. Besides, SMEs would lack adequate infrastructures such as proper ventilation, clean drinking water, and necessary safety equipment. Other than that, the informal and temporary workforce in many SMEs creates a challenge as those workers may not always fall within the scope of safety and welfare provisions of the Act. Another barrier is attitude change. Sometimes, smaller employers perceive this measure as another financial burden or operational impediment. Checking on documentation to ensure compliance would be a problem for small businesses since sometimes they lack the bureaucratic capacity to follow and present data on the activities relevant to safety.

The government must provide financing in the form of subsidies to aid the small businessmen to upgrade their infrastructure and security standards.

Increased awareness through targeted campaigns will help educate SME owners and employees on the importance of complying with the standards. Easy compliance process and government support such as regular inspections and technical assistance, will further encourage SMEs to meet the requirements for compliance. Besides the above factors, it also includes measures to ensure that measures for safety and welfare are applied to informal workers, popularize public-private partnerships in the domain of training and awareness, and so on. Promoting digital tools also enables SMEs to track their compliance with proper record keeping with minimum efforts. By addressing these challenges, SMEs can better align with the provisions of the Factories Act, ultimately improving worker safety, health, and overall productivity. Limited resources for safety training and inspections.

Limited resources for safety training and inspection

The challenge of limited resources for safety training and inspections is more pronounced in factories since many organizations, especially the smaller ones, struggle to meet the requirements due to budget constraints. Dedicated resources, such as skilled trainers, training materials, and time for the employees to attend the sessions, can be costly to a factory owner.

This lack of training investment brings about a poorly trained workforce that is generally not sensitized to the many risks involved and the essential safety controls needed to guard against potential accidents, meaning more workers will be affected by occupational injuries.

In terms of health and safety regulation compliance, resources for the inspection of factories are often inadequate. In most cases, regulatory bodies lack personnel and funds to carry out frequent or comprehensive inspections, especially in small factories. Many factories are thus not adequately monitored to ensure that safety standards are followed. This is quite dangerous in risky industries like chemical manufacturing, construction, and heavy machinery, whose consequences of negligence can be devastating.

These factors can be combated in the long term by encouraging factories, particularly SMEs, to invest in safety training. Government incentives may be in the form of subsidies or incentives to encourage factories to provide such training and implement safety measures. Regulatory authorities must also improve their capacity to inspect by making use of technology to monitor from afar or carrying out more focused, risk-based inspections. More than that, developing low-cost, scalable online safety training programs could be a low-cost solution for factories to ensure workers are well-trained in safety procedures. The above measures can be implemented to tackle the problem of insufficient resources for safety training and inspections, making factories safer workplaces, reducing accidents, and ensuring compliance with safety regulations.

Several recommendations can help to achieve this to enhance compliance with workplace safety

- **Digital Monitoring:** The technology is definitely going to give a good shot in safety management of a factory. With IoT sensors and the application of real-time dashboards in terms of safety metrics, conditions for machinery can be monitored in factories, as well as detect hazardous situations at times. These systems offer instant alerts of potential risks thus assuring quicker response by the workers. Digital monitoring also enables the authorities to conduct virtual inspections, which is more efficient and cost-effective, especially for the SMEs that do not have access to resources for inspection.
- **Regular Audits:** Safety audits inside factories must be carried out to identify possible dangers and compliance with safety rules. Internal and external audits must be regular and intense, including both the safety of the machinery and practices of the workers, emergency preparedness, and health conditions. Regular auditing helps the factory avoid gaps in safety, which could be a source of accidents. Companies should be encouraged to include

safety audits in their everyday operations and enjoy the full benefits of continuous improvements in the standards of safety.

- **Safety Awareness Programs:** In safety, people will never learn in silence. For employee and employers there should always exist awareness pertaining the value of having work place security, one effective method followed nowadays is usually conducted workshops held online via their modules plus it has emergency drill sessions too. Such employer awareness campaigns should, then, focus on the medium- and long-term benefits of compliance with safety, including productivity improvement, lower insurance costs, and better employee retention. Ideally, collaboration with industry bodies and government agencies can help ensure that these programs are accessible and effective.

The incorporation of digital monitoring systems and regular audits, and running steady awareness programs will be taken up in the factory and thus a safer work place can be achieved. Furthermore, such measures reduce accidents and improve well-being for employees, while creating an effective safety culture.

The e-Shram portal launched by the Ministry of Labor, for unorganized sector workers, is a good model for making safety and welfare measures implementation better in factories. Central digital databases of the workers can make such systems applicable in factories by monitoring safety training, audits, and compliance. Linking of workers with the social security benefit through the portal may be replicated and linked to the health, safety, and insurance schemes of factory workers. The portal can also help in the digital monitoring and real-time reporting of inspections and audits in factories. This model will enhance safety standards, ensure better compliance, and improve worker welfare, especially in SMEs and informal sectors.

Conclusion

The Factories Act of 1948 has been crucial for protecting the rights and welfare of workers within the industrial sector in India. Throughout the years, provisions within the Act have drastically impacted their working conditions, safety for workers and their harmony within the industrial setting. The act regulated from sanitation and safety to welfare and working hours, to name but a few, the approach that the Act took to consider every aspect made the workplaces safer and healthier for millions of workers across different industries.

However, with the evolving nature of the industries and the emergence of the new challenges, modernization of the act is apparent. Technological changes, changes in industrial practices, and the emergence of new types of hazards necessitate the bringing of the provisions up to international standards and to modern concerns. In many ways, it is issues such as digital monitoring, the rise in automation at workplaces, and the significance of mental health that need to be improved upon the provisions.

The Occupational Safety, Health, and Working Conditions Code seeks to rationalize and strengthen the safety of workers in terms of regulation by consolidating a few labor laws and giving more lucid guidelines to safety in modern industries. Reforms supplement the existing framework of the Factories Act; the worker welfare is thus continually evolving with the change in industrial landscapes. The Factories Act has done wonders for the welfare of the workers, but worker protection will depend on constant watch, strict enforcement, and updating provisions to address newer challenges. Digital tools, sensitization, and filling in gaps in compliance, particularly in SMEs, would be the way forward for ensuring that the principles of safety and well-being of workers stay paramount.

In a nutshell, though the Factories Act of 1948 is a cornerstone of industrial labor law in India, it needs to be adapted and updated to provide workers with safe, fair, and modern working conditions. This will protect the rights of workers while also promoting a more productive, efficient, and harmonious industrial environment.

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