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## Occupational Health and Safety Laws in Agricultural Sector: An Emerging Need in India

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### Abstract

*Occupational health and safety issues in agricultural sector are a neglected issue across the world. Although the International Labour Organization has viewed agriculture as one of the dangerous occupations involving the occupational health hazards and safety issues, India has not adopted concrete legal steps to safeguards the agricultural workers. The failure to enact special laws to address the health and safety of agricultural workers in India in line with the international legal mandate has endangered their interests. The paper is an attempt to discuss the various issues pertaining to occupational and safety laws in agricultural sector in India. The study is based on doctrinal research and uses both primary and secondary sources of data.*

### Keywords

Tourism, Satras, Majuli, Economic activities, Income, Dependency.

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## **Occupational Health and Safety Laws in Agricultural Sector: An Emerging Need in India**

### **1. Introduction**

Agricultural sector, as the oldest and most fundamental human occupation, is the backbone of India's economy. It contributes substantially to the livelihood of a large section of population in India. As per the Economic Survey of 2024-25, the estimated agriculture sector is expected to rebound to a growth of 3.8 per cent in Financial Year 2025 (Summary of Economic Survey 2024-25, 2025). The agricultural sector plays a vital role to ensuring food security, rural development and economic stability. In spite of its vital role, the agricultural sector in India neglects the health and safety of agricultural workers. Occupational health and safety refers to practices, policies and systems designed to ensure the safety, health and wellbeing of persons working in any workplace. Although India has a stringent regulations regarding industrial sector, agricultural sector continues to operate in precarious conditions, often outside the protection of labour laws. Agricultural workers are regularly exposed to a wide range of risks, including exposure to pesticides, extreme weather conditions, accidents with tools and machines, and ergonomic hazards. The agricultural sector being mostly informal or unorganized sector, the workers are often have limited or no access to healthcare, insurance, or safety equipment. As per International Labour Organization, agriculture continues to be a hazardous sector (Kalifungwa, 2024: 694), but the occupational health and safety regulations are almost non-existence. The present research paper aims to address the current state of the legal aspects of health and safety at work in the Indian agricultural sector and propose corrective measures to strengthen the legal framework. It delves into exploring international and national legal standards, identifying regulatory gaps and proposing concrete reforms.

### **2. Basic Concept of Occupational Health & Safety (OHS)**

Occupational Health and Safety (OHS) is a multidisciplinary field concerned with the safety, health, and welfare of people at work

(Nduka, 2018: 206). It deals with identification, evaluation, and mitigation of risks associated with the working environment (Alauddin *et al.*, 2024: 72). It is more than a legal framework; it guarantees workers dignity and guarantees all workers, irrespective of their sector of activity, the right to safe working conditions. Combining the definition of Health as provided by World Health Organization (WHO), occupational health may be defined as promotion and maintenance of the highest degree of physical, mental, and social well-being of workers in all occupations (Klikauer, 2018: 122). The common definition of occupational health adopted by Joint Committee of ILO and WHO on occupational health and safety is "Occupational health should aim at the promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations; the prevention among workers of departures from health caused by their working conditions; the protection of workers in their employment from risks resulting from factors adverse to health; the placing and maintenance of the worker in an occupational environment adapted to his physiological and psychological capabilities; and, to summarize, the adaptation of work to man and of each man to his job" (International Labour Office, 1998: 23).

### 3. Review of Literature

The issue of occupational health and safety in agriculture has attracted limited academic and policy attention, especially in the Indian context. While there is considerable research on OHS of industrial sector, agricultural work is still under-represented in national legal framework and in academic research. Here an attempt shall be made to review the available literature, both international and national, to unearth the existing research gaps.

Globally, a number of studies have identified agriculture as one of the most dangerous sectors. According to the estimate of International Labour Organization (ILO), more than 170,000 agricultural workers are killed every year, amounting to half of all fatal workplace accidents (International Labour Organization, 1997). While reporting that exact data on the OHS status of agricultural sector is not available in developing nations, the authors have noted that the in pesticide-related diseases estimated 2 to 5 million people are exposed to acute poisonings each year and that 40000 die (Cole, 2006). In India, it is stated that atleast 120 fatalities occur in agriculture every day (Dimple *et al.*, 2021: 229).

The dearth of OHS legislations to cover the self-employed workers of agricultural sector is a major issue across the world. In one such study in European countries, the authors point out that one of the most serious problems and shortcomings in EU health and safety legislation is the exclusion of self-employed farmers, who represent almost 90 percent of the agricultural population (Jakob *et al.*, 2021: 452).

In one of the study conducted in the context of Turkey, the authors have inter alia noted that when examining the issue of health and safety at work in agriculture, it is clear that a sufficient level of awareness has not yet been created, both in Turkey and in other parts of the world (Soygýlý & Çakmak, 2021).

In India, few researchers have tried to map the prevalence and nature of occupational hazards in agriculture. In one of these studies, the authors reported that farmers are exposed to various biological, respiratory, noise, skin diseases, certain cancers, chemicals linked to environmental and safety issues, musculoskeletal injuries, etc (Dimple *et al.*, 2021: 229). In another study carried out in the context of rural agricultural workers of India, the authors reported that common occupational health hazards related to farming are different types of mechanical hazards (Manwani & Pandey, 2014: 22). In another study, the authors inter alia observed that there is a need to increase the level of health education, safety literacy of the farmers (V. P. Sharma *et al.*, 2021). Despite the fundamental role of agriculture in the Indian economy, there is a significant lack of academic, institutional and legislative focus on the health and safety of agricultural workers.

#### **4. International Legal Standards related to Occupational Health and Safety in Agricultural Sector**

At the international level, there has been recognition of occupational health and safety (OHS) laws. It focuses on safe and dignified working conditions along with welfare of the workers as one of the important facets of workers' rights. The ILO keeping in mind the hazardous nature of agriculture developed a comprehensive OHS standard regarding agricultural sector.

##### **4.1 ILO Convention No. 184 on Safety and Health in Agriculture (2001)**

The Safety and Health in Agriculture Convention, 2001 is an international legal instrument developed by the ILO to address the

OHS issues in agriculture sector. The Convention requires the member states to adopt a coherent policy on OHS in agriculture and periodically review it. The policy should provide for prevention of accidents and injury to health arising out, linked with or occurring in due course of work by elimination, minimization and control of hazards (Singh, 2009: 411). The Convention contains 29 Articles. Article 1 of the Convention defines the agriculture. Under the Convention, the term agriculture includes agricultural and forestry activities carried out in agricultural holdings, including crop production, forestry, livestock and insect farming, and the processing and maintenance of agricultural and livestock products by or on behalf of the holding operator, including all processes, storage, operation and transport within the holding (Cardona *et al.*, 2015: 1502). Under Article 2, agriculture does not include (a) subsistence agriculture; (b) industrial processes using agricultural products as raw materials and associated services; and (c) the industrial exploitation of forests (Cardona *et al.*, 2015: 1502). The broad definition of agriculture under the Convention may be perceived from the relevant Articles. It covers agricultural workers working for a wage (Art. 1), whether permanent, temporary or seasonal (Art. 17) (Vapnek *et al.*, 2007a: 24). Further, non-binding Recommendation 192 provides that the member state should progressively extend the Convention of 2001 to self-employed farmers and agricultural workers who own or rent the land on which they work, including small tenants, sharecroppers, small owner- operators, members of farmers' cooperatives and subsistence farmers.

Under Article 3, a Member State that ratifies the Convention may initially exclude certain sectors of agriculture or groups of workers for reasons of substantial problems, but it must plan for their inclusion over time. These exclusions and plans of action must be notified to the ILO, with detailed justification and future actions. As per Article 4, the member states must develop and regularly review a national policy on agricultural safety and health with an aim to eliminate, minimize or control work-related injuries (Vapnek *et al.*, 2007b: 24). The policy must be formulated after consulting the employer's organization, worker's organizations and national conditions. The national legislation should define responsible authorities, outline rights and duties of employer and worker, ensure coordination, and enforce penalties, suspend or restrict the agricultural activities posing imminent risk (Vapnek *et al.*, 2007b: 24).

Labour inspection is an important aspect of labour law. The ILO has a Labour Inspection (Agriculture) Convention, 1969 specially for inspection purpose in agriculture. As per Article 17 of the 1969 Convention, agricultural labour inspection services shall be involved in the preventive inspection of new plants, new materials or substances and new methods of handling or processing products which appear likely to pose a health or safety risk, in so far as the competent authority so determines (Labour Inspection, 2006: 33).

As per Section 5 of the Safety and Health in Agriculture Convention, 2001, member state must establish a well-equipped and effective inspection system for agricultural workplaces. As per national laws, inspection duties may be delegated to or shared with approved public or private bodies under government control. Article 6 mandates that in accordance with national laws, the employers must ensure the safety and health of workers in all aspects of agricultural work. The Article further fixes the responsibility upon multiple employers or self-employed persons operating in the same agricultural setting. The relevant national legislation must provide that they must coordinate to uphold health and safety standards in workplace. Article 7 imposes the duty upon employers to assess workplace risks and take necessary steps to ensure all agricultural tools, equipment, and processes are safe and compliant with standards. It further encompasses the duty of employer to provide adequate training and instructions on safety and health, information regarding risk and workplace hazards to agricultural workers (Turhanođullari & Özçatalbap, 2014: 314).

Furthermore, it requires the employer to stop any task posing immediate danger and evacuate the workers. As per Article 8 of the Convention, Agricultural workers shall have the right to be informed, consulted and involved in security measures and to be able to withdraw from dangerous situations (Turhanođullari & Özçatalbap, 2014: 314). Workers and their representatives must, in turn, adhere to safety rules and assist employers in carrying out their responsibilities. Article 9 and 10 of the Convention stipulates that agricultural equipment and tools must be safe, well-maintained, and operated by qualified personnel only. Under Article 11, the handling and transport of materials, in particular manual lifting, must comply with safety requirements to protect workers against injuries. According to Articles 12 and 13 chemical safety systems must cover the import,

labelling, use and disposal of chemicals and must provide clear information on hazards and ensure the safe disposal of waste. As per Article 14, the national laws and regulations should prescribe that the biological agents must be handled to prevent infections, allergies, and injuries. Further, Article 15 provides that agricultural installations must also comply with health and safety regulations.

Despite its importance, India has not ratified Convention No. 184 (Moore *et al.*, 2025: 252). This reflects a reluctance to extend mandatory legal protection to agricultural workers in terms of OHS, although many of the principles of the Convention are in line with India's constitutional safeguards and sustainable development goals.

#### **4.2 ILO Convention No. 155 (Occupational Safety and Health Convention, 1981)**

The Convention is one of the key international instruments adopted by ILO. It ordains every member state to formulate, implement, and periodically review a national policy on occupational safety and health (Koradecka, 2010: 17). The Convention is not sector-specific, all comprehensive and covers all branches of economic activity (International Labour Office, 1991: 19). The Convention endows the employers with responsibility to ensure that all practicable preventive and protective measures are taken to minimize occupational risks. The Convention mandates that the employers are responsible for providing adequate information, comprehensive in-service training and the necessary OHS training, for consulting workers on health and safety related issues related to their work and for informing the competent authority of cases of occupational injuries and diseases (Occupational Safety and Health in Public Health Emergencies, 2020: 4). Further, the employers are also required to provide workers with adequate protective clothing and equipment and adequate training in their use to avoid, as far as possible, any risk of adverse health effects (Backhouse, 2013: 73). Not only employers but also workers are vested with obligations under the Convention. Workers are required to take reasonable care for their own safety and for the safety of others, to follow safety instructions, to report hazards and injuries at work (Backhouse, 2013: 74). India has also not ratified the Convention, which limits its liability in the international enforcement of labour rights (Up-to-Date Conventions Not Ratified by India, 2025).

### **4-3 OHS Laws Related to Agriculture in Different Countries**

In Brazil, extensive laws have been adopted regarding OHS in agricultural sector. Originally, rural labour security was regulated by virtue of Law No. 5.889 of June 5, 1973. But in 2005, this law was replaced by a single specific Regulatory Norm, NR-31. This NR-31 This Regulation lays down the principles to be respected in the organization and working environment with a view to planning and developing activities in agriculture, livestock, forestry, aquaculture and in the field of health and safety at work (da Silva *et al.*, 2021: 4).

In USA, The agricultural sector is subject to specific regulations under the Occupational Safety and Health (OSHA) programme. It provides a list of simple rules to remind farmers of the important safety issues (Pyykkönen & Aherin, 2012: 400). In Australia, health and safety legislation covers all sectors of the economy and state-level authorities implement agricultural safety codes and training programmes for farmers. In other words, the Australian agricultural sector is required to comply with state/territory legislation to maintain a safe workplace (Donham & Thelin, 2016: 489). However, from 2012, all jurisdictions in Australia are subject to a single overarching legislation called the Occupational Health and Safety (OHS) Act, which will strengthen these requirements (Lower *et al.*, 2011: 293).

## **5. Indian Legal Standards related to Occupational Health and Safety in Agricultural Sector**

In India, the occupational health and safety (OHS) sector has multiple legislations addressing the various sectors of economy. However, in order to consolidate and adopt a single comprehensive legislation, the Occupational Safety, Health and Working Conditions Code, 2020 has been enacted. Although, India has a robust framework of OHS, the agricultural sector remains under-represented in these legislative frameworks. The present section is devoted to discuss critically the national legal standards related to OHS in agriculture.

### **5-1 Constitutional Provisions**

Although the Indian Constitution does not explicitly provides any provisions regarding OHS in agriculture, it implicitly regulates occupational health and safety under a number of fundamental rights and directive principles. Article 21 guarantees the right to life

and personal liberty, which has been interpreted by the Supreme Court to include the right to health and safe working conditions. Article 39(e) directs the State to ensure that the health and strength of workers are not abused. Article 42 mandates the State to make provisions for securing just and humane conditions of work.

### **5.2 Occupational Safety, Health and Working Conditions Code, 2020**

This Code consolidates 13 existing labour laws pertaining to OHS into a single, comprehensive legislation. However, its scope largely excludes agricultural workers. The key features of the code are:

- ▶ Applicable primarily to establishments with a fixed number of employees.
- ▶ Focus on formal and industrial sectors such as factories, mines and construction
- ▶ It includes provisions for plantations but excludes agriculture.

Although the Code does not contain a specific reference to agriculture, it does establish a Social Security Fund in accordance with Section 115. The Social Security Fund has been created for unorganized sector labour. The unorganized sector labour has been given the same meaning as is assigned to it under clause (m) of section 2 of the Unorganised Workers Social Security Act, 2008. Unorganized Workers' Social Security Act, 2008 has defined unorganized sector worker as a home based worker, self-employed worker or a wage worker in the unorganized sector and includes a worker in the organized sector who is not covered by any of the Acts mentioned in Schedule-II of Act i.e. the Employee's Compensation Act, 1923 (3 of 1923), the Industrial Disputes Act, 1947 (14 of 1947), the Employees' State Insurance Act, 1948 (34 of 1948), the Employees Provident Funds and Miscellaneous Provision Act, 1952 (19 of 1952), the Maternity Benefit Act, 1961 (53 of 1961) and the Payment of Gratuity Act, 1972 (39 of 1972) (Harish & Venkatashami, 2015: 43). This has the potential to include unorganized sector agricultural workers.

### **5.3 Plantations Labour Act, 1951**

The Plantations Labour Act, 1951 is milestone legislation in the field of plantations. The Act provides welfare measures such as housing, medical care, and sanitation for workers in tea, coffee, cinchona, cardamom and rubber plantations, it does not extend its benefits to agricultural workers. Furthermore, the Act only applies to

plantations which admeasure 5 hectares of land size and employing a minimum 15 workers, thereby excluding small-scale and family-run farms (R. C. Sharma, 2016: 663).

#### **5.4 Insecticides Act 1968**

The Insecticides Act 1968 is one of the legislation relevant to agriculture. The Act has been enacted to regulate the import, manufacture, sale, transport, distribution, quality and use of insecticides in order to prevent risks to humans (Singh *et al.*, 2019: 51).

### **6. Problems of Existing OHS Related Legal Framework**

#### **6.1 Exclusion from Key Legislation**

The first and foremost issue is the deliberate exclusion of OHS aspects in agriculture from labour laws such as the OSH Code, 2020. Although the Code consolidates 13 labour laws and promises universal OHS standards, it is largely oriented toward factories, mines, plantation and construction establishments. This leaves more than 46 percent of the Indian workforce employed in agriculture outside the scope of OHS protection (Bhagirath, 2025).

#### **6.2 Lack of Legislative Will**

Agriculture is often seen as a traditional, subsistence activity rather than as a formal sector of the economy requiring OHS regulation. The OHS aspect of agriculture is limited to enactment of the Insecticides Act 1968. In case Plantations also the safety provisions were added to the Plantations Labour Act, 1951 only in 2010 (Joseph & Viswanathan, 2016: 161).

#### **6.3 Minimal Judicial Intervention**

Although the courts have ruled in favour of labour rights under Article 21, judicial intervention in the agricultural sector remains limited. Without specific legislation to interpret, the role of judiciary is limited in enforcing the OHS standards for agricultural workers.

#### **6.4 Socio-Economic Challenges**

- a. Informal Sector of Economy and Seasonal Nature of Work:** Most agricultural workers are either self-employed (Afridi, 2025) or hired for a short period with daily or piece-rate basis payment (Pal, 1994: 1), making it difficult to monitor or mandate OHS measures. The lack of legal identity and records for such workers complicates the delivery of OHS benefits.

- b. Low Literacy and Awareness Levels:** A large proportion of agricultural workers have low literacy (Arcury *et al.*, 2010), which makes it difficult for them to understand safety instructions or how to use protective equipment.. Even in states having highest literacy rate like Kerala , agricultural workers have been exposed to OHS issues due to ‘inadequate understanding of the toxicity levels, unscientific handling practices and poor personal protective mechanism’ (Devi, 2009: 263).
- c. Economic Constraints:** The small and marginal farmers who dominate Indian agriculture often lack the financial means to invest in safety equipment or ergonomic tools. They very often rely on locally manufactured tools and traditional equipments lacking safety and design standards which cause injuries specially among women agricultural workers (Pai *et al.*, 2021: 451).

## 7. Suggestions

- a. Amending the OSH Code to Include Agriculture:** The first and foremost suggestion to improve the OHS standards of agricultural sector in India is to amend the OSH Code, 2020, to explicitly include agricultural workers and define safety standards applicable to this sector.
- b. Adopting mandate of Internal Legal Regime:** The Indian legal regime should include provisions regarding OHS measures as provided in the ILO Convention No. 184. This Convention could be adapted to Indian agricultural sector and include provisions on risk assessment, pesticide safety, ergonomic tools and mobile health services.
- c. State Level OHS Policy on Agriculture:** Whereas the OSH Code, 2020 is amended would be a Central legislation to be implemented at state level, States could be encouraged to develop regional OHS frameworks for agriculture in order to establish a solid legal framework for OHS in the agricultural sector. This will facilitate the needs for occupational health and safety in the agricultural sector, tailored to local crops, climates, practices and the needs of agricultural workers.
- d. Creation of Database of OHS issues:** There is an urgent need of creating a national database on agricultural injuries, diseases, and fatalities which will greatly facilitate in evidence-based

policymaking and revision of list of agricultural hazards or diseases. In addition, the integration of these data with existing surveys on health and labour can provide a clearer picture of the landscape of occupational health and safety in the agricultural sector in India.

- e. **Arrangement of Awareness Programme and Training Programme:** As the agricultural workers or farmers lack awareness regarding OHS needs of agricultural sector, the Farmer cooperatives, panchayats, and NGOs can be mobilized to deliver safety training, demonstrate proper use of tools, and distribute protective gear. Government-sponsored schemes should include a budget for OHS education.
- f. **Financial Aid and Subsidies of Government:** The government can provide financial assistance for the adoption of safety measures through Subsidized ergonomic tools,,Tax exemptions for farms implementing OHS standards, mandatory health insurance for agricultural workers or farmers, Insurance premium discounts for small or marginalized farmers.
- g. **Integration of OHS with Rural Healthcare:** The agricultural activities are primarily carried out in rural areas. Hence, it is imperative to strengthen the rural healthcare with proper facilities to take care of the OHS issues. In this regard, training of ASHA workers, primary healthcare providers, engagement of doctors and nursing staff specializing Occupational Health may be undertaken.
- h. **International Collaboration on OHS:** India can work with global agencies such as the International Labour Organisation, the World Health Organization and the Food and Agriculture Organisation to adopt international best practices. Pilot projects may be launched with technical and financial support to demonstrate scalable models for OHS. Further necessary steps should be taken to ratify and implement ILO Convention No. 184 by India.

## 8. Conclusion

Agriculture is the lifeline of Indian rural economy contributing substantially towards rural livelihood and nation building. In spite of its substantial contribution, the agricultural workers continues to work under an unsafe and inequitable labour conditions. Although

agriculture is one of the most dangerous professions, it is largely excluded from the scope of current legislation on health and safety at work. This legal opacity not only contravenes constitutional values, but also violates the international legal order. In this context, India can draw important lessons from global practice. The adoption of key principles from ILO Conventions and the adaptation of successful models such as Brazil's NR-31 could help to create a strong national legal framework for the protection of OHS in agriculture. Furthermore, ratification of the ILO Convention No 184 and alignment with the SDGs would strengthen India's international commitments and improve the well-being of workers.

## References

- Afridi, F., "The Landscape of Self-Employment in India: Trends, Constraints and Policy Prescriptions", *The Indian Journal of Labour Economics*, Springer; The Indian Society of Labour Economics (ISLE), 68(1), March 2025, 23-44, [https://ideas.repec.org/a/spr/ijlaec/v68y2025i1d10.1007\\_s41027-025-00561-5.html](https://ideas.repec.org/a/spr/ijlaec/v68y2025i1d10.1007_s41027-025-00561-5.html)
- Alauddin, S., Bhattacharya, P. C., Rawat, D. S., & Saran, D. A. K., *Environmental Health and Safety: Principles and Practices*, RK Publication, 2024.
- Backhouse, J., *Essential Health and Safety Study Skills*, Routledge, 2013.
- Bhagirath, *Economic Survey 2025: Employment increased in agriculture sector, decreased in manufacturing and services*, Down To Earth, January 31, 2025. <https://www.downtoearth.org.in/agriculture/economic-survey-2025-employment-increased-in-agriculture-sector-decreased-in-manufacturing-and-services>
- Cardona, J., Porcaro, G., Weuro, J., & Zecca, G., *The International Law of Youth Rights*, Second Revised Edition, Hotei Publishing, 2015.
- Cole, D., Understanding the links between agriculture and health: Occupational health hazards of agriculture. (2006). <https://cgspace.cgiar.org/items/739520de-22a9-44c6-884d-6e71a80b9d15>
- da Silva, E. V. C., Lopes, F. P., Siqueira, J. A. C., & Tokura, L. K., "Work safety applied in the rural environment: A review", *Research, Society and Development*, 10(12), 2021, e91101220179-e91101220179.
- Devi, P. I., "Health risk perceptions, awareness and handling behaviour of pesticides by farm workers", *Agricultural Economics Research Review*, 22(2), 2009, 263-268.
- Dimple, Rajput, J., Indu, & Kumar, M., "Human Health Hazards and Risks in the Agriculture Sector", P. K. Rai, P. Singh, & V. N. Mishra (eds.), *Recent Technologies for Disaster Management and Risk Reduction: Sustainable Community Resilience & Responses*, Springer International Publishing, 2021, 229-244. . [https://doi.org/10.1007/978-3-030-76116-5\\_14](https://doi.org/10.1007/978-3-030-76116-5_14)

- Donham, K. J., & Thelin, A., *Agricultural Medicine: Rural Occupational and Environmental Health, Safety, and Prevention*, John Wiley & Sons, 2016.
- Harish, P., & Venkatasami, R., *Women Workers in Beedi Industry: An Economic Analysis of Beedi Rolling in Karnataka*, Lulu.com, 2015.
- International Labour Office, *International Labour Standards Concerned with Labour Inspection: Main Provisions*, International Labour Organization, 1991.
- International Labour Office, *Technical and Ethical Guidelines for Workers' Health Surveillance*, International Labour Organization, 1998.
- International Labour Organization, ILO warns on farm safety Agriculture mortality rates remain high Pesticides pose major health risks to global workforce | International Labour Organization. (1997, October 22). <https://www.ilo.org/resource/news/ilo-warns-farm-safety-agriculture-mortality-rates-remain-high-pesticides>
- International Labour Organization, *Labour Inspection*, International Labour Organization, 2006. <https://www.ilo.org/resource/65-labour-inspection>
- International Labour Organization, *Up-to-date Conventions not ratified by India*, NORMLEX Information System on International Labour Standards, 2025. [https://normlex.ilo.org/dyn/nrmlx\\_en/f?p=1000:11210:0::NO:11210:P11210\\_COUNTRY\\_ID:102691](https://normlex.ilo.org/dyn/nrmlx_en/f?p=1000:11210:0::NO:11210:P11210_COUNTRY_ID:102691)
- Jakob, M. C., Santa, D., Holte, K. A., Sikkeland, I. J., Hilt, B., & Lundqvist, P., "Occupational health and safety in agriculture-a brief report on organization, legislation and support in selected European countries", *Annals of Agricultural and Environmental Medicine*, 2021, 28(3), 452-457. <https://pub.epsilon.slu.se/25933/>
- Joseph, K. J., & Viswanathan, P. K., *Globalisation, Development and Plantation Labour in India*, Routledge, 2016.
- Kalifungwa, P. K., *The Climate Phenomenon*, Xoffencer International Book Publication House, 2024.
- Klikauer, T., *Managing People in Organizations*, Bloomsbury Publishing, 2018.
- Koradecka, D., *Handbook of Occupational Safety and Health*, CRC Press, 2010.
- Lower, T., Fragar, L., & Temperley, J., "Agricultural Health and Safety Performance in Australia", *Journal of Agromedicine*, 16(4), 2011, 292-298. <https://doi.org/10.1080/1059924X.2011.605726>
- Manwani, V. K., & Pandey, S., "An Epidemiological Study Of Mechanical Health Hazards Amongst Agricultural Workers In Rural India", *International Journal of Occupational Safety and Health*, 4(2), 2014, Article 2. <https://doi.org/10.3126/ijosh.v4i2.10304>
- Moore, M., Scherrer, C., & Linden, M. van der, *The Elgar Companion to Decent Work and the Sustainable Development Goals*, Edward Elgar Publishing, 2025.
- Nduka, E., Augustine, *Human Rights, Public Values, and Leadership in Healthcare Policy*, IGI Global, 2018.

- Pai, S., Malhotra, S., Coxon, S., & Napper, R., "Design Intervention in Farm Equipment: Using a Studio Research Approach to Design a Sustainable, Human-Powered Solution for Small and Marginal Indian Farmers", A. Chakrabarti, R. Poovaiah, P. Bokil, & V. Kant (eds.), *Design for Tomorrow*, Volume 3, Springer Singapore, 2021, 449-460. [https://doi.org/10.1007/978-981-16-0084-5\\_36](https://doi.org/10.1007/978-981-16-0084-5_36)
- Pal, S., *Choice of casual and regular labour contracts in Indian agriculture: A theoretical and empirical analysis*, University of London, London School of Economics (United Kingdom), 1994. <https://search.proquest.com/openview/a98cfe729965f6826bbe6788920e3daf/1?pq-origsite=gscholar&cbl=51922&diss=y>
- Press Information Bureau, *Summary of Economic Survey 2024-25, Government of India*, 2025. <https://www.pib.gov.in/> [www.pib.gov.in/Pressreleaseshare.aspx?PRID=2097921](https://www.pib.gov.in/Pressreleaseshare.aspx?PRID=2097921)
- Pyykkönen, M., & Aherin, B., *Occupational Health and Safety in Agriculture*, Baltic University Press, 2012. <https://www.diva-portal.org/smash/get/diva2:602612/FULLTEXT02>
- Saygılı, Y. S., & Çakmak, B., "Occupational Health and Safety in Agricultural Production", *Turkish Journal of Agriculture-Food Science and Technology*, 9, 2021, 2418-2426.
- Sharma, R. C., *Industrial Relations and Labour Legislation*, PHI Learning Pvt. Ltd., 2016.
- Sharma, V. P., Singh, S., Dhanjal, D. S., Singh, J., & Yadav, A. N., "Potential Strategies for Control of Agricultural Occupational Health Hazards", A. N. Yadav, J. Singh, C. Singh, & N. Yadav (Eds.), *Current Trends in Microbial Biotechnology for Sustainable Agriculture*, 2021, 387-402. Springer. [https://doi.org/10.1007/978-981-15-6949-4\\_16](https://doi.org/10.1007/978-981-15-6949-4_16)
- Singh, *Industrial Relations and Labour Laws*, Excel Books India, 2009.
- Singh, S. B., Parmar, B. S., & Walia, S., *Pesticides and Pests*, Cambridge Scholars Publishing, 2019.
- Turhanođullari, Z., & Özçatalbađ, O., "The importance of extension for occupational health and safety in agricultural sector", *Journal of Food, Agriculture & Environment*, 12(1), 2014, 312-316.
- Vapnek, J., Pagotto, I., & Kwoka, M., *Designing National Pesticide Legislation*, Food & Agriculture Org., 2007a.
- Vapnek, J., Pagotto, I., & Kwoka, M., *Designing National Pesticide Legislation*, Food & Agriculture Org., 2007b.
- WHO, *Occupational safety and health in public health emergencies: A manual for protecting health workers and responders*, World Health Organization, 2020. ★