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A Study on Occupational Health and Safety Standards in Labour- Intensive in Industries

Asst. Prof. Mr. K. Ponnumani[1], Hariom B[2]
Dr. N.G.P. Arts and Science College, Coimbatore, Tamil Nadu, India

Abstract: ***Labour-intensive industries face significant occupational health and safety (OHS) challenges due to their dependence on manual labor and hazardous working conditions. This study investigates the implementation and effectiveness of OHS standards in the food processing industry, with a focus on Capricorn Food Products India Ltd. located in Tamil Nadu, India. Using a mixed-methods approach combining quantitative surveys and qualitative interviews, the research highlights key risk factors, evaluates worker perceptions of safety measures, and identifies gaps in current OHS practices. The findings suggest that although safety guidelines exist, communication, regular training, and protective measures need further enhancement. Recommendations are provided to improve compliance, worker well-being, and overall productivity.***

Keywords: ***Occupational health and safety, labour-intensive industries, food processing, workplace safety, India, risk management.***

I. INTRODUCTION

Labour-intensive industries such as manufacturing and food processing rely heavily on manual labor, exposing workers to risks including physical strain, chemical exposure, and unsafe machinery. The International Labour Organization (ILO) estimates that over 2.3 million workers die annually from occupational causes. In India, despite regulatory frameworks like the OSHWC Code (2020), enforcement and awareness remain inadequate. This study explores OHS practices at Capricorn Food Products India Ltd., analyzing how safety standards affect productivity and worker health.

II. STATEMENT OF THE PROBLEM

Labour-intensive industries often struggle with inadequate implementation of occupational health and safety (OHS) standards, exposing workers to significant risks such as chemical hazards, physical strain, and poor working conditions. Despite existing regulations, gaps in enforcement, training, and awareness persist. This study addresses the need to evaluate these shortcomings within the food processing sector, focusing on Capricorn Food Products India Ltd., to identify key challenges and propose practical improvements in workplace safety.

III. SCOPE OF THE STUDY

This study focuses on evaluating occupational health and safety (OHS) standards within the labour-intensive food processing industry, specifically examining Capricorn Food Products India Ltd. in Tamil Nadu. It explores key aspects such as workplace hazards, safety training, employee awareness, and compliance with national and international OHS regulations. The study aims to assess the effectiveness of current safety measures, identify operational gaps, and suggest improvements to enhance worker well-being, reduce risks, and improve productivity. The findings are intended to inform both industry practices and policy frameworks relevant to similar labour-intensive sectors.

IV. OBJECTIVES

1) To assess the effectiveness of existing occupational health and safety (OHS) standards in a labour-intensive food processing environment
2) To identify common workplace hazards and evaluate employee awareness of safety protocols and risk prevention strategies.
3) To examine the impact of OHS practices on worker well-being and productivity, including physical and mental health outcomes
4) To evaluate the adequacy of safety training programs and the communication of safety policies within the organization.

V. RESEARCH METHODOLOGY

A mixed-methods design was employed. Quantitative data were gathered through structured questionnaires distributed to 124 workers across departments. Qualitative insights were obtained via interviews with supervisors and safety officers. Data analysis included simple percentages, chi-square, and ANOVA tests to identify trends and correlations.

VI. RESEARCH DESIGN

1) Sampling Size: 124 respondents
2) Sampling Technique: Purposive sampling technique
3) Statistical Tools used: Simple percentage analysis, Ranking method, Weighted average, Chi-Square and Anova
4) Primary Data: Collected 124 respondents through the questionnaire
5) Secondary Data: Journals, books and websites.

VII.LIMITATIONS

1) The study focuses on a single company, limiting generalizability.
2) Sample size was constrained by time and resources.
3) Data is self-reported, which may introduce response bias.
4) The study period was short, possibly missing seasonal variations.
5) Limited access to internal safety documentation.

VIII. REVIEW OF LITERATURE

Marhavilas (2018) "International occupational health and safety management-systems standards as a frame for sustainability: Mapping the territory" The research by examines how international occupational health and safety (OHS) management systems standards contribute to sustainability. It highlights that OHS standards, such as ISO 45001, are crucial for promoting sustainable practices within organizations by ensuring workers' safety and health, which in turn supports long-term sustainability goals. The study maps the landscape of various OHS standards and their integration into organizational frameworks, emphasizing that these standards help manage workplace risks and reduce accidents and illnesses. The authors also point out challenges, such as the need for a deeper integration of OHS practices with broader sustainability objectives. They recommend that organizations align OHS standards with environmental and social sustainability strategies for a more comprehensive and proactive approach to sustainability.

David 2012 Cliff's study, published by the International Mining for Development Centre (IM4DC) in 2012, examined how Occupational Health and Safety (OHS) was managed in the Australian mining industry. The research aimed to identify key challenges, best practices, and strategies to improve workplace safety in the sector. Given that mining is a high-risk industry with hazards such as mine collapses, equipment failures, dust exposure, and explosions, effective OHS management was critical.

Robson (2012) conducted a study on Occupational Health and Safety (OHS) management auditing methods used by public sector organizations. The research aimed to assess how workplace audits were conducted, particularly focusing on the reliability and validity of these auditing methods. Since OHS audits play a crucial role in ensuring workplace safety, the study examined their effectiveness, consistency, and limitations

Sinelnikov, Inouye, and Kerper (2015) explored the use of leading indicators as a method for measuring occupational health and safety (OHS) performance. Traditionally, many organizations relied on lagging indicators (such as injury rates, lost workdays, and fatalities) to assess workplace safety. However, this study investigated how leading indicators— proactive, preventative measures—could provide a more effective way to predict and reduce workplace incidents.

Høj and Kröger (2002) conducted a risk analysis of road and railway transportation in Europe, focusing on safety, accident risks, and risk assessment methodologies. Their study compared the two modes of transport, evaluating their respective risks and identifying factors influencing safety performance.

IX. FINDINGS

A. Simple percentage analysis

1) Majority 54.03% (67) of the respondents are male.
2) Majority 58.06% (72) of the respondents are belong to the age category of 18 to 25 years.
3) Majority 45.97% (57) of the respondents are belong to Undergraduate in education qualification
4) Majority 40.32% (50) of the respondents are Below monthly income.

5) Majority 44.35% (55) of the respondents are employed.
6) Majority 45.97% (57) of the respondents are education institutions to reduce accidents, injuries and fatalities.
7) Majority 60.48% (75) of the respondents are education institutions to identify potential hazards and reduce risks.
8) Majority 50% (62) of the respondents are education institutions to reduce workplace accidents and ensure worker safety.
9) Majority 38.71% (48) of the respondents are education institutions to increase work hours to reduce noise levels.
10) Majority 62.1% (77) of the respondents are education institutions to the to yes, regularly.
11) Majority 75.81% (94) of the respondents are education institutions to the yes.
12) Majority 42.74% (53) of the respondents are education institutions to weekly.
13) Majority 60.48% (75) of the respondents are education institution to promoting communication and the reporting of hazards.
14) Majority 49.19% (61) of the respondents are education institution to by providing protective equipment and implementing ventilation systems.
15) Majority 55.65% (69) of the respondents are education institution to provide regular safety training and hazard assessments.
16) Majority 40.32% (50) of the respondents are education institution to chemical burns and respiratory issues.
17) Majority 46.77% (58) of the respondents are education institution to very satisfied.
18) Majority 65.32% (81) of the respondents are education institutions to the yes.
19) Majority 61.29% (76) of the respondents are education institution to safety drills, emergency response training, and hazard identification.
20) Majority 39.52% (49) of the respondents are education institution to mental health first aid training.
21) Majority 52.42% (65) of the respondents are education institution to creating a positive and supportive work environment.
22) Majority 54.03% (67) of the respondents are education institution to implement job rotation and encourage stretching.
23) Majority 52.42% (65) of the respondents are education institution to the they improve employee morale and reduce absenteeism.

B. Rank analysis

1) Majority of the respondents consider safety training and awareness.
2) Majority of the respondents consider Lack of proper training**.**

C. Chi-Square

H1 There is a significant relation between the age group and primary goal of implementing work place safety protocols.

D. Annova

Ho There is no significant relation between gender and company's safety culture.

X. SUGGESTION

1) Since the majority of respondents are male, consider tailoring some safety programs to address gender-specific risks and concerns in the workplace.
2) With most respondents being in the 18-25 age group, targeted awareness programs can be designed to educate young workers about workplace hazards and safety measures.
3) As nearly half of the respondents are undergraduates, integrating workplace safety topics into university curricula can enhance preparedness.
4) Since a significant portion of respondents have low monthly incomes, providing free or subsidized safety equipment and training may be beneficial.
5) Given that many respondents are employed, workplaces should implement more structured safety policies, including regular training and hazard identification.
6) Institutions should prioritize safety initiatives that minimize workplace accidents, such as improved equipment maintenance, risk assessments, and training programs.
7) Encouraging open communication regarding hazards can help in the early identification and mitigation of risks, enhancing overall safety.
8) Employers should ensure access to appropriate protective gear and implement proper ventilation to prevent health issues.

XI. CONCLUSION

In conclusion, the findings of the study highlight the importance of workplace safety measures tailored to the demographic and occupational characteristics of the respondents. Given that the majority are young, male, and undergraduates, targeted awareness programs and safety education in academic institutions can significantly enhance preparedness. Additionally, considering the financial constraints of many respondents, providing subsidized safety equipment and training can ensure broader accessibility. Workplaces should also prioritize structured safety policies, including regular training, risk assessments, and open communication to proactively identify and mitigate hazards. Moreover, ensuring proper protective equipment and ventilation will help reduce health risks associated with workplace environments. By implementing these measures, institutions and employers can create a safer and more supportive work environment, ultimately reducing workplace accidents and improving overall well-being.

BIBLIOGRAPHY

JOURNALS

[1] Marhavilas, P.K.; Pliaki, F.; Koulouriotis, D. International Management System Standards Related to Occupational Safety and Health:2022, 14, 13282. https://doi.org/10.3390/su142013282

[2] Marhavilas PK, Pliaki F, Koulouriotis D. International Management System Standards Relatedto Occupational Safety and Health:2022; 14(20):13282. https://doi.org/10.3390/su142013282

[3] Marhavilas, Panagiotis K., Fani Pliaki, and Dimitrios Koulouriotis. 2022. "International Management System Standards Related to Occupational Safety and Health: 14, no. 20: 13282. https://doi.org/10.3390/su142013282

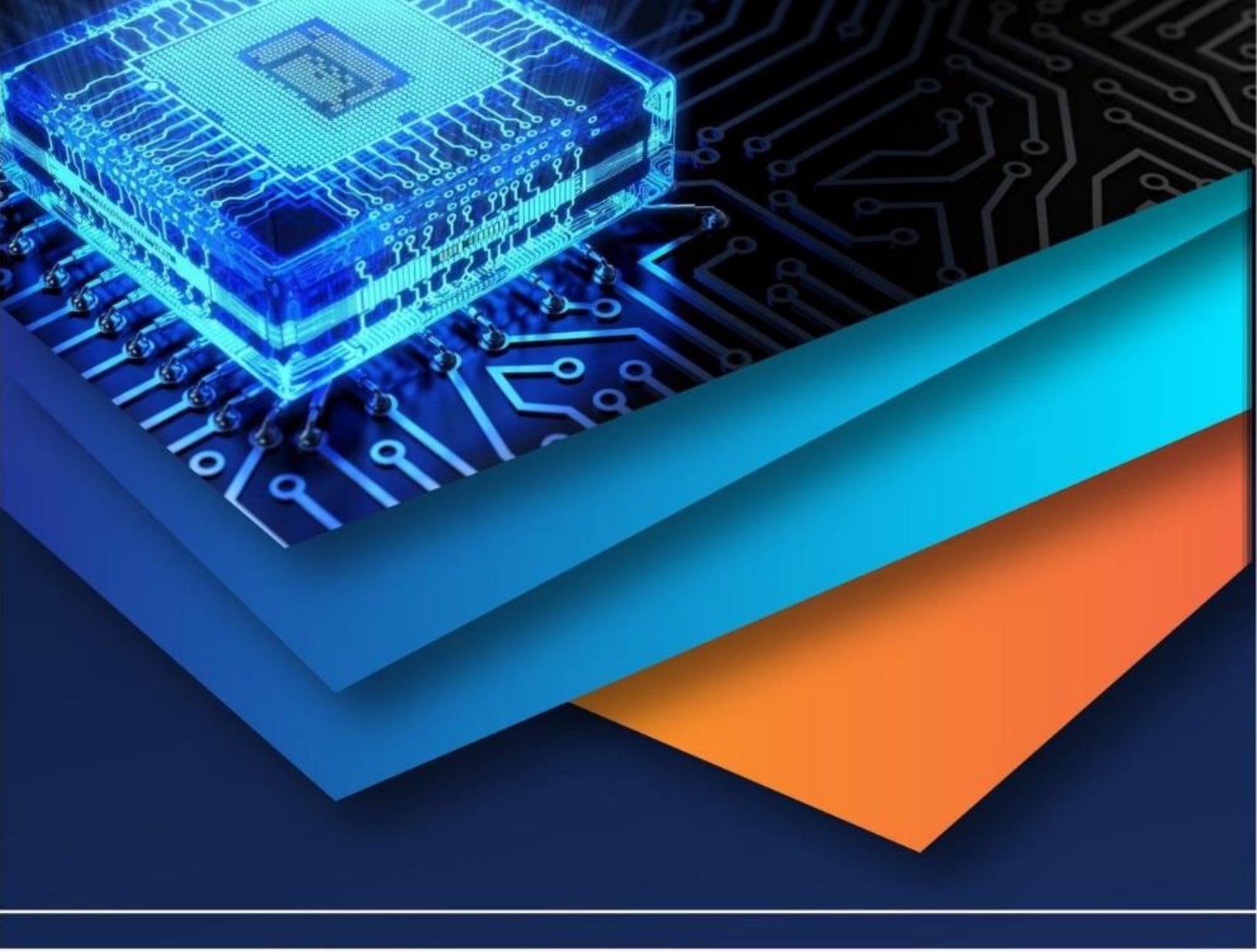
[4] Marhavilas, P. K., Pliaki, F., & Koulouriotis, D. (2022). International Management System Standards Related to Occupational Safety and Health:14(20), 13282. https://doi.org/10.3390/su142013282

WEBSITES

[5] www.jetir.org

[6] www.irjmets.com

[7] . www.ijmtst.com



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