

# CEMENT INDUSTRY WORKERS HEALTH STATUS: A SOCIOLOGICAL STUDY

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DOI: <https://doi.org/10.5281/zenodo.19500234>

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## ABSTRACT

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*The Indian cement industry is the second largest producer of cement in the world just behind China, but ahead of the United States and Japan. The health and safety performance of the cement industry as a whole is lagging behind that of other, more proactive, sectors of manufacturing industry. Within the sector, there is a wide range of performances. The better companies have demonstrated that it is possible to achieve injury rates similar to the average for the manufacturing industry. However even the best have room for further improvement. The main objectives of the studies are to study the socio-educational and economic background of workers in cements industries. To understand the working conditions of workers in cement industries, to study the health status of workers conditions maintained by the cement industries at the work places. The data was used in the present research work is mainly based on primary data collected from workers in cement industries of Kalaburagi district. Hence, the primary data was collected from the workers working in cement industries located in Kalaburagi district. Vasavadatta Cement is one of the modern and efficient cement plants in India, producing best quality of cement to the complete satisfaction of its customers. It produces Gold 53, Super 43 Grade Cement and Birla Shakti Cement. Hence, due to limited time frame, it was decided to select four large scale cement*

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*industries in Kalaburagi district and even the number of workers is also more and hence, totally 70 Cement industry workers selected in Vasavadatta cement industry in Seadam Taluka were surveyed. The Factories Act has mentioned different conditions to ensure health of the labour in industries and these promote hygienic conditions at industries.*

**KEYWORDS:** *Manufacturing, Performance, Mentioned.*

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## **Introduction:**

Cement is an essential component of infrastructure development and most important input of construction industry, particularly in the government's infrastructure and housing programs, which are necessary for the country's socioeconomic growth and development. It is also the second most consumed material on the planet. The Indian cement industry is the second largest producer of cement in the world just behind China, but ahead of the United States and Japan. The health and safety performance of the cement industry as a whole is lagging behind that of other, more proactive, sectors of manufacturing industry. Within the sector, there is a wide range of performances. The better companies have demonstrated that it is possible to achieve injury rates similar to the average for the manufacturing industry. However even the best have room for further improvement. There is a particular need for the industry to encourage and help those companies and plants that are significantly under-achieving to raise their safety standards to ensure a sustainable industry that meets social and employment expectations. Manpower constitutes an important asset of any organization among all the other assets such as Materials, Money and Machines. It is the manpower, which accelerates the production activities of the organization. Hence, it is essential that the well being of the manpower or workers is very essential in every organization. To enable health and well being of the workers in organizations, different legislations have already been passed by the Government of India and state governments. The Factories Act 1948 and its Amendment in 1987 emphasized several measures, so as to protect the health of the workers. These measures are classified under different headings such as Cleanliness, Disposal

of Wastes and Effluents, Ventilation, Control of Temperature, Dust, Fume, Artificial Humidification, Overcrowding, Adequate Lighting, Drinking Water facilities, Latrine and Urinal facilities and Spittoons. It is essential to know about the different provisions of the Factories Act. Other health risks which can occasionally arise in cement plants are: Health risks due to vermin and others pests can arise particularly in warmer countries due to unhygienic conditions. These can also arise due to storage of secondary fuels such as tyres, where crevices can contain pools of water and provide breeding grounds. Minor quantities of toxic chemicals may also be used in the manufacturing process. These include laboratory chemicals and other cleaning fluids and solvents. Transformers and capacitors may also contain PCB (Poly-Chloro-Biphenyl) liquids. In all cases, management must ensure that adequate training in use of these substances and MSDS (Materials Safety Data Sheets) are provided. In cases where open-loop water cooling tower systems exist (such as in air-conditioning systems), there is a possibility for the occurrence of Legionnaire's Disease. Regular disinfection of the cooling system will prevent this. In older plants it will be appropriate to check out the possibility for existence of friable asbestos or asbestos-containing materials, and if found to exist, to carry out a risk assessment and appropriate encapsulation, area isolation or remedial measures. Such materials will most frequently be found in ductwork insulation or flexible se

### **Review of Literature:**

Agnihotram (2005) published a paper on "An Overview of Occupational Health Research in India" in 'Indian Journal of Occupational and Environmental Medicine'. Recent industrialization and globalizations are changing the Indian occupational morbidity drastically. Traditionally labor-oriented markets are on change towards more automation and mechanization, at the same time general awareness about occupational safety, occupational and environmental hazards were not spread in the society. This review will provide an overview of existing evidence from community based epidemiological studies and address the growing needs for evidence- based occupational health research in India. Review of all published results. Occupational research is seen as more complex issue in India, which Includes child labor; poor industrial legislation; vast informal sector; less attention to industrial hygiene and poor

surveillance data across the country. While India experiencing economic transition, occupational research approach should balance between understanding the modern industrial exposures and health risks of traditional sectors like agriculture and plantations. Strategies like modern occupational health legislation, enforcement machinery in sub-district level, training to health professionals, need for epidemiological evidence and international collaborations were discussed to deal with the situation Baldry (2006) writes a paper entitled "Off the Rails: Factors affecting Track Worker Safety in the Rail Industry" in 'Employee Relations', the purpose of which is to focus on the serious, but under-examined incidence of fatalities and injuries among rail track workers. It identifies the pressures on trackwork, locating them within an analysis of the economic structure of the privatised rail industry and illustrates the consequences of these pressures at the operational level. A series of semi-structured interviews was held with management representatives of the infrastructure and maintenance companies, rail safety bodies and officials and representatives of the RMT. These were supplemented by focus-group style discussions with track maintenance workers in Scotland and the North of England. The paper then relates these qualitative data to the analysis of recent major incidents which have involved fatalities of rail employees. Within the structure of the post-privatised industry, improvements to the safety regime are always in danger of being constrained by countervailing economic and organisational pressures. There is a marked discrepancy between the higher level safety structure and the experience of employees at track level. There is virtually no workforce input into the construction of safety procedures despite the fact that rail workers' commitment to the industry represents a large untapped resource for safety improvement. As stated by Maria Kuruvila, et al (2006) in their paper entitled "Pattern of Skin Diseases among Migrant Construction Workers in Mangalore" in 'Indian Journal of Dermatology, Venereology and Leprology'. With increasing industrialization, the construction industry provides employment to a large number of skilled and nonskilled workers, many of them migrant workers. Aim: This study was undertaken to provide epidemiological data regarding various dermatoses among migrant construction workers in India as currently there

is a paucity of the same. Methods: One thousand construction workers, including 467 migrant laborers, were examined for various dermatoses. Results: Most (88%) workers were males and 51.17% were in their third decade. Infective and noninfective dermatoses were seen in 89.72% and 53.74% of laborers respectively. Among infective dermatoses, fungal infections were the most common (46.25%) ones, followed by bacterial infections (24.83%), scabies (8.56%) and viral infections (6.42%). Contact dermatitis to cement was seen in 12.48% of the laborers. Masons had a significantly higher incidence of contact dermatitis to cement, viral infections and scabies than helpers. Conclusions: The pattern of dermatoses is an expression of poverty, overcrowding and the occupational hazards of the construction industry.

### **Objectives of the Study**

- To study the socio-educational and economic background of workers in cements industries.
- To understand the working conditions of workers in cement industries;
- To study the health status of workers conditions maintained by the cement industries at the work places;

### **Methodology:**

Secondary Data: Totally two types of data was collected for the present study. Secondary data was collected from books, research papers, journal articles, web sites, etc. The secondary data is mainly used to derive theoretical background and research gap for the present study. Primary Data: The present research work is mainly based on primary data collected from workers in cement industries of Kalaburagi district. Hence, the primary data was collected from the workers working in cement industries located in Kalaburagi district. Study Area and Sample Size: Vasavadatta Cement is one of the modern and efficient cement plants in India, producing best quality of cement to the complete satisfaction of its customers. It produces Gold 53, Super 43 Grade Cement and Birla Shakti Cement. The company possesses ISO-9002 and ISO-14001. This company is introducing latest management methods like Total Productive Maintenance (TPM) from Japan. Further, there are more than 10 cement industries in the Kalaburagi district, of which 3-4 are

large scale industries.

## Results and Discussion:

**Table No. 1.1 Age of the Respondents**

| Particulars        | Frequency | Percentage |
|--------------------|-----------|------------|
| 19 to 25 Years     | 13        | 18.57%     |
| 26 to 40 Years     | 25        | 35.71%     |
| 41 to 55 Years     | 18        | 25.71%     |
| More than 55 Years | 14        | 20%        |
| Total              | 70        | 100%       |

Above table on the age of the respondents made it clear that, considerably major portion, that is, 25 (35.71%) of the respondents belongs to age group of 26 to 40 years followed by, 18 (25.71%) belongs to 41 to 55 years, 13(18.57%) of the respondents are between 19 to 25 years and the remaining only 14 (20.00%) are of more than 55 years respectively. It shows that, a great majority of the workers working in cement industries are of middle age group.

**Table No. 1.2 Educational Qualifications**

| Particulars    | Frequency | Percentage |
|----------------|-----------|------------|
| Primary        | 28        | 40         |
| Secondary      | 11        | 15.71      |
| Graduation/ PG | 21        | 30         |
| Technical      | 10        | 14.28      |
| Total          | 70        | 100        |

The educational qualifications of all the respondents disclosed that, 137 (34.25%) of the respondents are possessed only secondary education followed by, 106 (26.50%) are with technical qualifications such as ITI, Diploma, etc, 84 (21.00%) of the respondents have completed only primary education and the remaining 73 (18.25%) have completed their graduation or post- graduation respectively. It shows that, though there is majority of the workers who are with lower education, still the workers with technical qualifications are more in cement industries.

**Table No. 1.3 Marital Status of the Respondents**

| Particulars       | Frequency | Percentage |
|-------------------|-----------|------------|
| Unmarried/ Single | 11        | 5.5        |

|                     |    |       |
|---------------------|----|-------|
| Married             | 26 | 74.25 |
| Widow/ Widower      | 19 | 8.75  |
| Divorcee/ Separated | 14 | 11.5  |
| Total               | 70 | 100   |

Among the total respondents covered under the present study, it is highlighted that a great majority that is, 26 (74.25%) are married followed by, 19 (8.75%) are widows or widowers, 14 (11.50%) are divorcees or separated and the remaining only 11 (5.50%) are unmarried and living single.

**Table No. 1.4 Ill Health Due to Work at Cement Industry**

| Particulars   | Frequency | Percentage |
|---------------|-----------|------------|
| Fully Feel    | 13        | 19         |
| Somewhat Feel | 12        | 31.5       |
| Don't Feel    | 24        | 40.75      |
| Don't Know    | 21        | 8.75       |
| Total         | 70        | 100        |

As stated by all the workers surveyed under the study, 13(19.00%) are fully felt that there is ill health due to work at cement industry, 12(31.50%) have somewhat felt that there is ill health due to work at cement industry, 24 (40.75%) have not felt that there is ill health due to their work at cement industry and 21 (8.75%) have no awareness about the same. It shows that majority of the respondents are feeling ill health due to their work at cement industries.

**Table No. 1.5 Health Problems of the Respondents**

| Particulars          | Frequency | Percentage |
|----------------------|-----------|------------|
| Respiratory Problems | 17        | 40.75      |
| Asthma/ Bronchitis   | 19        | 24.25      |
| Tuberculosis         | 14        | 13.25      |
| Any Other            | 12        | 8          |
| Not Applicable       | 8         | 20.75      |
| Total                | 70        | 100        |

It is observed from the above table that, few of the respondents are suffering from more than one type of health problem. Specifically, as stated by all the workers covered under the study, 17 (40.75%) are suffering from respiratory problems, 19 (24.25%) are suffering from

Asthma or Bronchitis, 14 (13.25%) are suffering from tuberculosis, 12 (8.00%) are suffering from other types of health problems and it is not applicable. It is emphasized that when the health problems of workers are analyzed, it is proved that due to their work at cement industries, they are getting health problem.

**Table No. 1.6 Health Facilities Provided by Company**

| Particulars                                | Frequency | Percentage |
|--------------------------------------------|-----------|------------|
| Health Centre at Work Place                | 16        | 22.85      |
| Reimbursement of Medical Expenses          | 15        | 21.42      |
| Medical Allowance                          | 11        | 15.71      |
| Medical Facilities Only for Selected Staff | 13        | 18.57      |
| Just Leave with Pay during Illness         | 10        | 14.28      |
| None                                       | 5         | 7.14       |
| Total                                      | 70        | 100        |

On the health facilities provided by their companies, among all the workers, 16 (22.85%) have stated that their company has set up health centre at their work place, 15 (21.42%) have remarked that their company is providing reimbursement of medical expenses, 11 (15%) have expressed that their company is providing medical allowance, 13 (18.57%) have mentioned that their company is providing medical facilities only to selected staff, 10 (14.28%) have expressed that their company is providing just leave with pay during their ill health and 5 (7.14%) have stated that their company is not giving any of the medical and health facilities to them.

**Table No. 1.7 Health Care Activities of the Company**

| Particulars                    | Frequency | Percentage |
|--------------------------------|-----------|------------|
| Regular Health Check-up Camps  | 17        | 24.28      |
| Free Health Treatment          | 16        | 22.85      |
| Awareness Camps in Health Care | 13        | 18.57      |
| Any Other                      | 14        | 20         |
| None                           | 10        | 14.28      |
| Total                          | 70        | 100        |

It is noted from the above table that, many of the workers surveyed have expressed that their companies are organizing more

than one type of health care activity at their work places. Particularly, 17 (24.28%) of the respondents have mentioned that their company is organizing regular health check-up camps at their work places, 16 (22.85%) of the respondents have stated that their company is providing free health treatment at their work places, 13 (18.57%) have remarked that their company is providing awareness camps in health care, 14(20%) of the respondents have agreed that their company is providing other types of health care activities and only 10(14.28%) of the respondents have felt that their companies are not organizing any of such healthcare activities.

### **Suggestions:**

1. Regular Health Monitoring: Consistent health assessments can detect and address potential health issues early, mitigating long-term consequences.
2. Baseline Health Records: Establishing comprehensive health profiles for workers provides a benchmark for tracking changes over time and identifying potential health risks.
3. Periodic Check-ups: Routine medical examinations for both workers and those in close proximity to cement plants are essential for maintaining optimal health.
4. Comprehensive Assessments: Regular evaluations of both the cement production process and worker health are necessary to identify and mitigate hazards effectively.

### **Conclusion:**

Many of the diseases are epidemic and they are spread in groups. As the labourers are working in group, then these diseases may spread in entire industrial organization. To prevent spreading of such diseases, there is need for health awareness camps and health check-up camps at industrial organizations. Further, health care facilities are essentially needed to ensure health of labourers in industries. Realizing this, many of the industrial organizations were opened their own health centres at the industrial organizations. The Factories Act has mentioned different conditions to ensure health of the labour in industries and these promote hygienic conditions at industries. The industries should realize the importance of such hygienic facilities for the benefits of the workers and thereby industrial development.

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