



A study on workers' attitude towards the safety, health & welfare measures in pyrotechnics industry at Sivakasi

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Abstract

Fireworks industry is a developing rapidly and successfully one in Virudhunagar District especially in Sivakasi. In this industry, the employees are not given acceptable in quality welfare measures for their health and safe working. In fireworks the employees have lot of difficulty on their welfare measures, safety equipments and well-being. In fireworks industry, safety is most important for the employees. Generally the quality of work life of workers is based on Hours of work and arrangements of working time; Work organization and job content; Impact of new technologies on working conditions; Working conditions of women, young workers, old workers and other special categories; Work-related welfare services and facilities. So the study is referring to the main intention of to discover the welfare measures in the fireworks industry. According to the factories act the welfare measures and safety equipment should be very important because the safety of the employees is extremely important. In fireworks industry lot of fire disaster is happening this is a time to identify the safety equipments and well-being of the employees. This study mainly focused on the Employees welfare measures and well-being.

Keywords: welfare measures, firework industry, committee, labour welfare, pyrotechnics

Introduction

Fireworks industry is well known to be a hazardous industry. Right from the initial phase of manufacturing till the transportation and storage of fireworks in the stores, risk to life and property is high. The manufacturing process, type of storage and handling are some of the important factors which bear the likeliness of an explosive event taking place. 90 percent of Indian fireworks industries are situated in Sivakasi, Tamil Nadu and hence the workers there are the most susceptible to injuries. There are around 750 factories and 80000 workers are employed in them. The manufacturing process of assembly is a critical phase where workers come in direct contact with hazardous substances leading to greater like risk. Lead poisoning, ulcers, damage to the central nervous system is some major problems facing these people. Besides unhygienic conditions, improper training lead to greater danger to lives of people. Child labour is a predominant form of employment and leads to loss of lives at an early age. Our paper reviews the hazards faced by workers working in the fireworks industry and provides some mitigation strategies through which these hazards could be reduced.

Labour Welfare

Welfare means to do something in a great way. The term suggests the state of well-being and wholesomeness of the human being. It is the desirable state of existence involving, physical, moral, psychological and emotional factor of a person. The term "Welfare" is derived from the French phrase "Welfare" which means to farewell. It is a state of happiness, well-being or prosperity. It is an important aspect of industrial relations which makes life worth for workmen. It acts as stimuli to the workers to

keep them motivated. It is a dynamic concept depends on the patterns of the society, economic systems and political setup of a country which changes with the changing scenario of the society. According to the Committee on Labour Welfare, welfare services mean such services, facilities and amenities as adequate canteens, rest and recreational facilities, sanitary and medical facilities, arrangements for travel to and from place of work, and for the accommodation of workers employed at a distance from their homes; and such other services, amenities and facilities, including social security measures, as contribute to the conditions under which workers are employed.

Review of Literature

In this study is to analyze the Industrial, welfare measures, safety and well-being of firework employees in Sivakasi There has been lot of researches that has already been taken up for the study. The Report of the committee on Labour welfare (1969) includes under it such services, facilities and amenities as adequate canteens, rest and recreation facilities, sanitary and medical facilities, arrangements for travel to and from work and for the accommodation of workers employed at a distance from their homes, and such other services, amenities and facilities including social security measures as contribute to improve the conditions under which workers are employed.' The whole field of welfare is said to be one in which much can be done to combat the sense of frustration of the industrial workers, to relieve them of personal and family worries to improve their health, to afford them means of self-expression, to offer them some sphere in which they can

excel others and to help them to a wider conception of life.” Kumar and Yadav (2002) examined the satisfaction level of workers from labour welfare schemes implemented in eight state government and private sector sugar factories of Sivakasi in Tamilnadu. The number of workers were selected on the basis of random sampling method for data collection. The results revealed that satisfaction level of workers to the welfare schemes was very low in both private and state sugar factories. It was observed that satisfaction level of workers from social security schemes, housing, medical schemes, and education schemes was higher in case of private sector sugar factories than the state government firework factories.

Research Area

The nearby town Sivakasi has three major industries with a high potentiality for child labour engagement in. (i) Welfare measures (ii) Pyrotechnics (Fireworks) and (iii) Safety Matches industries. Sivakasi and neighbouring Sattur Districts produce about 75 per cent of India's matches. These two industries are the major sponsors of child labour. Being an arid region, Sivakasi is climatically suited for the fireworks and match industry. Additionally, in the absence of adequate alternative employment opportunities in agriculture, labour, including child-labour, is cheap. Fireworks and match industries are the only source of income for most of the homes in and around Sivakasi and Virudhunagar District at large.

Objectives of the Study

The main aim of the study is to analyze the industrial safety and well-being of firework employees in Sivakasi. The main objective of this study is to know about safety measures and well-being among firework employees in Sivakasi. To achieve the main objective, the following sub objectives of the study have been formed,

1. To study the awareness of labour welfare measures among workers in industrial sector in India.
2. To identify the safety problems in the fireworks industry among workers in fireworks industries
3. To study the implementation of welfare measures among the employees.
4. To suggest innovations based on the study for the effective growth of labour welfare measures.

Method of Study

The study conducted in Virudhunagar district especially in Sivakasi. Survey method is used for the study. In order to gather information on the effectiveness of fireworks industries researcher conducted survey among the fireworks employees. The researcher used Interview Schedule as the tool for data collection.

Need and Significance of the Study

The safety and well-being are important to the employees. It includes having good mental health, high life satisfaction and a sense of meaning or purpose. Well-being is something sought by just about everyone, because it includes so many positive things feeling happy, healthy, socially connected, and purposeful. Industrial safety's main focus is employee well-being. If the safety is perfect in the industry the employee's well-being is also perfect. The majority of fireworks industry is in Sivakasi. So the study is taken among the Sivakasi fireworks employees. So the researcher has taken the study on Industrial safety and well-being of the fireworks employees in Sivakasi.

Analysis and Interpretation

This paper bring the literacy level of safety measures adopted by the industries and working environment in match and fire work industries such as First Aid, Emergency Doctors, Ambulance, Hospital, Fire Service, Overall Safety Measures, Accident, Health Hazard, movement of Neck, Leg, Fingers, eye disease and any other safety measure and working circumstances. The results are presented in tables with relevant interpretations.

Percentage Analysis – Personal Factors and Safety Measures

Table 1 reveals the literacy level of workers on availability of First aid, doctors at emergency, ambulance facility and hospital, fire service and overall safety measures. Majority of the workers felt that the first aid facilities available are average (45%), 39% agreed as good and 16% said that they are very good. The second majority of the workers felt that the hospital facilities available are average (78%) where on 6% agreed as good and 16% said that they are very good. The overall safety measures are (46%) poor condition of working environment and 38% agreed that they are very good, 11% said that they are average and 5% of workers said that they are very poor. First aid, hospital, overall safety measures, fire service, ambulance facilities and doctors at emergency time facilities are first, Second, third, fourth, fifth and six literacy levels respectively.

Table 1: Percentage Analysis – Personal Factors and Safety Measures

| S.No. | Institutional Factors | Very Good | Good | Neutral | Poor | Very Poor | WAM |
|-------|-------------------------|-----------|-----------|-----------|-----------|-----------|--------------|
| 1. | First Aid | 55 (16%) | 138 (39%) | 160 (45%) | 0 (0%) | 0 (0%) | 3.7025 (I) |
| 2. | Emergency Doctors | 0 (0%) | 0 (0%) | 61 (17%) | 112 (32%) | 180 (51%) | 1.6629 (VI) |
| 3. | Ambulance | 57 (16%) | 0 (0%) | 77 (22%) | 39 (11%) | 180 (51%) | 2.1926 (V) |
| 4. | Hospital | 57 (16%) | 22 (6%) | 274 (78%) | 0 (0%) | 0 (0%) | 3.3853 (II) |
| 5. | Fire Service | 112 (32%) | 22 (6%) | 39 (11%) | 0 (0%) | 180 (51%) | 2.6771 (IV) |
| 6. | Overall Safety Measures | 134 (38%) | 0 (0%) | 39 (11%) | 162 (46%) | 18 (5%) | 3.1983 (III) |

Regarding the attribute of workers on safety measures, majority of the workers felt that first aid (3.7025) and Hospital (3.3853) are average and other safety measures are poor and very poor respectively.

Average Score Analysis – Personal Factors and Safety Measures

It is understood from table 4.19 that the respondents, who are under the age group above 56 years (3.87), the peoples (3.62)

illiterate and can read, accountants (3.61), 6-15 years of experienced respondents (3.57) and female (3.55) ranked the level of safety measures in first aid. The respondents who are in the age group of above 56 years (2.10), Illiterate and can read peoples (1.78), accountants (1.78) and 6-15 years of experienced respondents (1.73) and male (1.69) are rating the accessibility of emergency doctors respectively. The respondents who are above 56 age (2.55), Illiterate and can read peoples (2.23), accountants (2.14), below 5 of experienced respondents (2.14) and male (2.18) have ranked ambulance provision respectively. Age group

between 46-55 (2.30), Cooly (1.89), Male (1.88), respondents with experience above 26 years (1.81) and illiterate and can read peoples (1.70) have ranked hospital respectively. While considering Fire Service it is found that age group above 56 (3.13), Illiterate and can read peoples (2.61), Accountants (2.56), respondents with experience of below 5 years (2.48) and male (2.47) expressed their favorable views accordingly. Overall Safety Measures have got scoring respectively by age group above 56 (3.35), Illiterate and can read peoples (3.04), respondents with experience of below 5 years (2.96), accountants (2.95) and male (2.90) based on the average score analysis.

Table 2: Average Score Analysis – Personal Factors and Safety Measures

| Working Conditions Personal Factors | | First Aid | Emergency Doctors | Ambulance | Hospital | Fire Service | Overall Safety Measures |
|-------------------------------------|-----------------------|-----------|-------------------|-----------|----------|--------------|-------------------------|
| Gender | Male | 3.51 | 1.69 | 2.18 | 1.88 | 2.47 | 2.90 |
| | Female | 3.55 | 1.66 | 2.01 | 1.56 | 2.34 | 2.80 |
| Age | 18 – 25 | 3.71 | 1.83 | 1.92 | 1.00 | 2.50 | 2.92 |
| | 26 – 35 | 3.44 | 1.54 | 1.85 | 1.48 | 2.13 | 2.64 |
| | 36 – 45 | 3.51 | 1.63 | 1.89 | 1.40 | 2.26 | 2.77 |
| | 46 – 55 | 3.60 | 1.67 | 2.39 | 2.30 | 2.52 | 2.93 |
| | Above 56 | 3.87 | 2.10 | 2.55 | 1.84 | 3.13 | 3.35 |
| Education | Illiterate & Can Read | 3.62 | 1.78 | 2.23 | 1.79 | 2.61 | 3.04 |
| | School Level | 3.39 | 1.41 | 1.74 | 1.46 | 1.91 | 2.49 |
| | College Level | 3.00 | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 |
| Designation | Accountant | 3.61 | 1.78 | 2.14 | 1.59 | 2.56 | 2.95 |
| | Cooly | 3.36 | 1.30 | 1.89 | 1.89 | 1.89 | 2.50 |
| | Worker | 3.00 | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 |
| Experience | Below 5 | 3.56 | 1.71 | 2.14 | 1.75 | 2.48 | 2.96 |
| | 6 to 15 | 3.57 | 1.73 | 1.94 | 1.44 | 2.34 | 2.72 |
| | 16 to 25 | 3.55 | 1.58 | 2.11 | 1.70 | 2.39 | 2.91 |
| | Above 26 | 3.38 | 1.50 | 1.92 | 1.81 | 2.04 | 2.65 |

From the above table 2, it is inferred that among the six institutional variables, emergency doctors availability, hospital and ambulance are captured the top three places of the preference of the respondents. Fire service is the threatening factor where most of the respondents felt dissatisfaction. Over all safety measures have been arrived from safety facilities are reasonably good.

The researcher analyzed the safety measures among the fireworks employees. The majority of the respondent said they have no safety materials so the respondent feel they need more safety materials while like gloves, face mask while they working near chemicals and machines in the factory. And they said they need medical camp 6months once. And they feel they need restroom for the relaxation in the break time. And they said the building and machines are maintaining in proper way. These all the discussions are happened among the researcher and the employees.

Conclusion

Attracting and retaining a talented workforce is a top priority for any type of organization and especially it is more essential to printing industry. In order to retain the employees, the organization should redress the employees' problems and increase their job satisfaction level. The above factor analysis highlighted that all the eighteen variables related to are very much

closely associated with one another. These eighteen variables have been extracted and grouped into four factors. Among the four factors "Organizational factors" has the highest variance of 21.076% and it is considered to be the most influencing factor in increasing the employees' problem. The fireworks industry provides job security and attractive salary with serious intention to avoid any dissatisfaction with respect to the same. Similarly improving working condition, implementing adequate safety measures and maintaining smooth relationship among supervisors and employees reduces the employees' problems and increase the job satisfaction level of the employees.

Safety and well-being is very essential for firework employees because in fireworks they are handling dangerous things every day. So the safety measures are most important in the fireworks industry. In Sivakasi, most of the people working in fireworks industry mainly the rural people. They are handling chemicals which will affect their health too. According to the Factories Act, safety and well-being is very necessary. For safety fencing machinery, safety materials, air circulation are required. For well-being first aid kit, toilet facilities, cleanliness and medical camp are very essential. To promote the safety in work place risk assessment should be conducted in the workplace. Investigation about the incident which happened and finding the root cause of the incident is also required to be examined. This will ensure the compliance with safety measures. Employees should also

understand the risk in the workplace, reduce the stress, take regular break while working and wear safety equipment which suits the task in industry. Employees are to be motivated about safety and make the employee an important part of the companies' culture; the leadership team should be champions of safety and use reinforcement in positive way. If some of these points are taken up by the factory, the workers will be working peacefully and protectively in their workplace.

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