

Safety and Security of Workers in Iron and Steel Industries of Bellary District

Abstract:

There are many occupational risks leading to industrial accidents in iron and steel industries. Thousands of workers become disabled or deceased due to industrial accidents in iron and steel industries in India every year. As such, the present study is made to explore the safety and security issues in iron and steel industries located in Bellary district of Karnataka. Totally 400 workers working in different iron and steel industries of Bellary district are surveyed. The paper described the different issues in safety and security of these workers in iron and steel industries.

Introduction:

Occupational environment is the sum total of external conditions which exists in the work place. It may affect the health of people in the working area. The external conditions and influences which may affect the health of workers include physical agents, biological agents, chemical agents, mechanical agents and psychosocial agents (Gulani, 2008). In an occupational area due to the influence of above mentioned agents a worker may be exposed to five types of hazards, depending upon his/her occupation. They are Physical Hazards, Chemical Hazards, Biological Hazards, Mechanical Hazards and Psychosocial Hazards. Physical hazards include Noise, Vibration, Lighting, Ionizing, Radiation, Electricity Asphyxiation, hypothermia and hyperthermia. Chemical hazards include Acids, Bases, Heavy metals and Asbestos. Biological hazards include Bacteria, Virus, Fungi and Mold. Mechanical hazards include impact force, Collisions, Falls from height, Struck by objects, Confined space, Slips and trips, Falling on a pointed object, Compressed air/high pressure fluids such as cutting fluid, Entanglement, Equipment -related injury, like Crushing , Cutting, Friction and abrasion, shearing, stabbing and puncture. Psychosocial issues include Work-related stress, Violence, Exposure to unhealthy elements like tobacco, uncontrolled alcohol, and musculoskeletal disorder. It is estimated that, 4,03,000 people in India die every year due to work related problems, that is, about 46 every hour (Pandita, 2011). Occupational respiratory diseases account for up to 50 % prevalence among workers in high risk sectors such as mining, construction, and dust generating works (ILO, 2011).

Occupational accident and work-related diseases are a worldwide problem. It causes a lot of suffering as well as loss to individual, organization, community and society. Safe, healthy and environmentally sound work environment should be of extreme priority for any socially responsible employer. Such an environment helps to build an organization's public image and contribute to

positive public relations. Commitment to employees' safety and health extends beyond economic benefits to long term consequences for workforce and their families.

Of course, there are life threats in every industry, but there may be due to different types of accidents. There are always threats of respiration and illness due to air borne dust in iron and steel industries and there are also other threats such as electrocution, electric shock, burning, etc. The present study made to explore the security and safety threats faced by workers in iron and steel industries in Bellary district.

Objectives of the Study:

The study mainly focused the safety issues in iron and steel industries at Bellary district. It is aimed to look into the facilities provided by the companies to ensure safety and security at the work place so as to avoid accidents. Further, it is also aimed to study the compensation packages in case of disability and death caused due to industrial accidents.

Scope and Methodology:

The secondary literature on industrial accidents, occupational health, etc was collected so as to derive theoretical background to the study. Based on the secondary literature, interviews with total 400 workers working in different iron and steel industries located in Toranagallu, Hospet and Sandur of Bellary district is made. Hence, present study is limited to 400 workers working in different iron and steel industries of Bellary district. The collected primary data from the workers is analyzed, interpreted and discussed as under.

Analysis, Interpretation and Discussion:

1. Safety and Security Threats at Work Place:

As discussed above, there are many threats such as respiratory problems, electrocution, explosion, etc at iron and steel industries. It was asked to the workers on the safety threats faced by them at their work places and collected primary data is tabulated as under.

Table No. 1. Safety Threats at Work Place

| Particulars | Frequency | Percentage |
|---------------------|-----------|------------|
| Respiratory Problem | 194 | 48.50 |
| Electrocution | 113 | 28.25 |
| Explosives | 44 | 11.00 |
| Fire/ Excess Heat | 78 | 19.50 |

| | | |
|-----------|-----|------|
| Any Other | 26 | 6.50 |
| Total | 400 | 100 |

On the safety threats at their work places, it is noted that many of the respondents have mentioned more than one type of safety threats at their work places. Specifically, of all the respondents, 194 (48.50%) have mentioned the respiratory problems are main safety threats, 113 (28.25%) have mentioned the electrocution is safety threat faced at the work place, 44 (11.00%) have stated that explosives are safety threats at their work places, 78 (19.50%) have expressed that there is safety threat from fire or excess heat and 26 (6.50%) have also given other types of safety threats at their work places.

2. Safety Tools and Equipments Provided at Work Places:

To restrict, control and avoid accidents from the above mentioned threats at the work places, the company management provides different safety tools and equipments to workers at the work places. They include Helmets, Safety Nets, Hand Gloves, Welding Shields, etc. The information furnished by the respondents on the safety tools and equipments provided at work places are disclosed as under.

Table No. 2. Safety Tools and Equipments Provided at Work Places

| Particulars | Frequency | Percentage |
|----------------------|-----------|------------|
| Hard Hats/ Helmets | 400 | 100 |
| Gloves | 312 | 78.00 |
| Safety Nets | 94 | 23.50 |
| Eye Glasses/ Goggles | 121 | 30.25 |
| Welding Shields | 66 | 16.50 |
| Safety Harness | 45 | 11.25 |
| Any Other | 38 | 9.50 |
| Total | 400 | 100 |

It is observed from the above table that, the companies are providing more than one type of safety tools and equipments at their work places. Particularly, all the 400 (100%) of the respondents have agreed that they have got hard hats or helmets, 312 (78.00%) of the respondents have stated that they have got gloves, 94 (23.50%) of the respondents have mentioned that they have safety nets at their work places, 121 (30.25%) have remarked that they have got eye glasses or goggles at their work places, 66 (16.50%) have expressed that they have got safety harness at their work places and 38 (9.50%) have also mentioned that they have got other types of safety tools and equipments.

3. Company Rule to Wear Safety Tools and Equipments at Work Places:

As there are safety threats at the work places, many of the companies have made it mandatory for all the workers to wear safety tools and equipments at their work places. Even few of companies may not made it mandatory to wear safety tools and equipments at their work places. In this respect, it was asked to the respondents that whether the company made rule to wear safety tools and equipments at their work places and the collected primary data is analyzed, interpreted and discussed as under.

Table No. 3. Company Rule to Wear Safety Tools and Equipments at Work Places

| Particulars | Frequency | Percentage |
|-------------|-----------|------------|
| Yes | 346 | 86.50 |
| No | 54 | 13.50 |
| Total | 400 | 100 |

It is clear from the above table that, almost that is, 346 (86.50%) of all the respondents have agreed that the company made rule to wear safety tools and equipments at work places, whereas only 54 (13.50%) have not agreed to the same.

4. Violation of Company's Rule to Wear Safety Tools and Equipments:

As discussed above, 346 of the total respondents have agreed that, the company has made rule to wear safety tools and equipments at their work places. It was asked to these respondents that, if this rule is violated, then what may be the reaction of the company management and the collected information is tabulated as under.

Table No. 4. Violation of Company's Rule to Wear Safety Tools and Equipments

| Particulars | Frequency | Percentage |
|----------------------------|-----------|------------|
| Don't Get into Workplace | 346 | 86.50 |
| Collect Fines and Penalty | -- | -- |
| Cut the Wages and Salaries | -- | -- |
| Any Other | -- | -- |
| Not Applicable | 54 | 13.50 |
| Total | 400 | 100 |

Above table made it clear that, 346 (86.50%) of all the respondents have agreed that if the workers are not wearing safety tools and equipments, then company doesn't allow them into the workplace, whereas it is not applicable to 54 (13.50%) of the respondents as they have already agreed that company has not made compulsory wearing of these safety tools and equipments.

5. Safe Environment at Work Place:

In addition to the safety tools and equipments provided to the workers, the companies are also taking many precautions such as recruitment of safety personnel at work places, Safety Nets, Ambulances, Health Centres, etc at the company's premises. The respondents have furnished the information on safe environment at their work places as under.

Table No. 5. Safe Environment at Work Place

| Particulars | Frequency | Percentage |
|---------------------|-----------|------------|
| Safety Net | 94 | 23.50 |
| Safety Personnel | 146 | 36.50 |
| Ambulance/ Hospital | 112 | 28.00 |
| Safety Fencing | 135 | 33.75 |
| Any Other | 21 | 5.25 |
| Total | 400 | 100 |

A few of the workers covered under the study have given more than one type of safety measure provided by the company so as to make the work environment safe. Specifically, 94 (23.50%) have mentioned that safety net is given at their work place, 146 (36.50%) have agreed that safety personnel is provided at their work places, 112 (28.00%) have felt that ambulance facilities or hospitals are available at their work places, 135 (33.75%) have agreed that safety fencing is made at the work places and 21 (5.25%) have also given other types of safety measures at their work places.

6. Whether Company Provide Training:

Training is best remedy or measure to minimize the accidental risk at the work places. Hence, information was collected from the respondents that whether their companies are providing training at their work places and the collected information is tabulated as under.

Table No. 6. Whether Company Provide Training

| Particulars | Frequency | Percentage |
|------------------------------|-----------|------------|
| Regular Training is Provided | 95 | 23.75 |
| Training Provided for | 162 | 40.50 |

| | | |
|---|-----|-------|
| New Machineries/ New Workers | | |
| Regular Guidance from Experts at Work Place | 143 | 35.75 |
| Any Other | -- | -- |
| Total | 400 | 100 |

It is highlighted from the above table that, among all the respondents surveyed, 95 (23.75%) have stated that regular training is provided at their work places, 162 (40.50%) have expressed that training is provided to the new workers or to workers whenever new plant and machineries were purchased and installed at work places and 143 (35.75%) of the respondents have agreed that there is regular guidance from experts at their work places.

7. Subscribed to Life Insurance Personally:

It has already been discussed that the workers working in iron and steel industries are getting lower wages and salaries. As such, they can't able to meet their comfortable needs such as children's education at private and good schools, tuition of their children, ownership to vehicles, subscription to life insurance policies, etc. Of course, subscription to life insurance is essential for the workers as they are facing many of the work place risks daily. Hence, information was collected from the respondents that whether they were subscribed to life insurance policies personally and collected primary data is tabulated as under.

Table No. 7. Subscribed to Life Insurance Personally

| Particulars | Frequency | Percentage |
|-------------|-----------|------------|
| Yes | 137 | 34.25 |
| No | 263 | 65.75 |
| Total | 400 | 100 |

It is surprising to note from the above table that, a great majority that is, 263 (65.75%) of all the respondents have not subscribed to life insurance personally, whereas only 137 (34.25%) have subscribed to life insurance personally. It shows that, though life insurance is essential, due to poverty or lower income, majority of the workers were not subscribed to life insurance.

8. Company Subscribed to Group Insurance of All Workers:

It has been made mandatory for all the organizations and companies to subscribe to Group Insurance of all the employees and workers. Still, many of such organizations have not subscribed to such insurance against threats and accidents at the work place. In this respect, the primary data

was collected from the respondents on whether their companies were subscribed to Group Insurance of all workers and collected primary data is tabulated as under.

Table No. 8. Company Subscribed to Group Insurance of All Workers

| Particulars | Frequency | Percentage |
|-------------|-----------|------------|
| Yes | 400 | 100 |
| No | -- | -- |
| Total | 400 | 100 |

It is highlighted from the above table that, as agreed by all the respondents, their industries are subscribed to Group Insurance of all workers against work place risks, threats and accidents.

9. Disability Benefits to Workers:

The company management frames rules and regulations regarding the salaries, compensation, rewards, etc. In case of disability due to industrial accidents, many of the companies assures job to the relative of disabled employees, provide pension, huge compensation so as to assure continuous income, etc. The collected information in disability benefits given by the iron and steel industries to their workers is shown as under.

Table No. 9. Disability Benefits to Workers

| Particulars | Frequency | Percentage |
|---------------------------------|-----------|------------|
| Compensation as per Labour Laws | 312 | 78.00 |
| Job to Relative | 243 | 60.75 |
| Pension | 73 | 18.25 |
| Any Other | 126 | 31.50 |
| Total | 400 | 100 |

Many of the workers surveyed under the study have given more than one type of disability benefit given to the workers, who are disabled due to industrial accidents. Particularly, among all the respondents surveyed, 312 (78.00%) have stated that the company provide compensation to disabled worker as per the labour laws, 243 (60.75%) have mentioned that the company provide compensatory job to disabled relative, 73 (18.25%) have remarked that their company provide pension to disabled worker and 126 (31.50%) have also given other facilities and benefits extended to disabled worker.

10. Death Benefits:

In iron and steel industries, due to many of the threats and risks at work places, workers may die due to industrial accidents. Under such circumstances, assurance of income for the families of the deceased workers is essential. As such, companies provide death benefits to the families of the deceased workers and such death benefits extended by the iron and steel industries are shown as under.

Table No. 10. Death Benefits

| Particulars | Frequency | Percentage |
|---------------------------------|-----------|------------|
| Compensation as per Labour Laws | 312 | 78.00 |
| Job to Relative | 243 | 60.75 |
| Family Pension | 73 | 18.25 |
| PF/ Gratuity | 400 | 100 |
| Any Other | 126 | 31.50 |
| Total | 400 | 100 |

Similar to disability benefits, different types of death benefits are available to the relatives of deceased workers at the work place. Specifically, as stated by the respondents, 312 (78.00%) have mentioned that compensation is to given to the families of the deceased workers as per labour laws, 243 (60.75%) have expressed that the job is given to the relatives of deceased workers at the work place, 73 (18.25%) have remarked that family pension will be give to the family members of deceased workers, all the 400 (100%) of the respondents have agreed that provident fund and gratuity will be given to the families of deceased workers and 126 (31.50%) have also given other types of benefits that are extended to the families of the deceased workers.

11. Satisfaction on Occupational Health, Hygiene and Safety at Work Place:

The workers are experts in determining the work place risks and threats. They are also aware about the hygienic conditions of their work place due to which good occupational health is assured. Hence, it was asked to the workers to mention their satisfaction towards the occupational health, hygiene and safety at their work places and the collected information is shown as under.

Table No. 11. Satisfaction on Occupational Health, Hygiene and Safety at Work Place

| Particulars | Frequency | Percentage |
|--------------------|-----------|------------|
| Fully Satisfied | 112 | 28.00 |
| Highly Satisfied | 130 | 32.50 |
| Somewhat Satisfied | 86 | 21.50 |

| | | |
|---------------|-----|-------|
| Not Satisfied | 72 | 18.00 |
| Total | 400 | 100 |

Of all the respondents on their satisfaction towards occupational health, hygiene and safety at their work places, it is noted that, 112 (28.00%) are fully satisfied, 130 (32.50%) are highly satisfied, 86 (21.50%) are somewhat satisfied and 72 (18.00%) are not satisfied.

Suggestions and Conclusion:

Above discussion revealed that, the iron and steel industries are much conscious about the industrial accidents and as such, they are always thinks on safety and security of workers. Of course, the safety precautions taken by the company managements is best, but still more measures are needed in terms of training to reduce industrial accidents. Further, there is need to plant trees so as to increase clean air at the work places. It will be better, if the company should organize regular health check-up camps and health awareness camps at the work places for workers.

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