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Evaluate the Behavior of Industry Workers Toward Safety and their Impacts in Environment

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Abstract

In this paper, evaluated the behavior of the workers in the industry toward safety, conducted among workers in workshops and factories in the Omdurman industrial area to identify and highlight the behaviors of workers toward occupational health and safety and their impacts on the environment. Data were collected through a questionnaire given to 58 workers, to explain the attitudes and practices of workers and tanker drivers were observed. Interviews were conducted with number of decision-makers in several departments concerned with the environmental impacts of industry. The workshops studied included welding, carpentry, car repairing, and disposal and restoring batteries. Related, hazards were identified and classified. The caught in or between things had the highest incidence, the machines were the primary cause of fractures, amputation, and wounds (17.2

Index terms— safety, occupational health, worker, industry, unsafe acts, accident.

Evaluate the Behavior of Industry Workers Toward Safety and their Impacts in Environment Abstract-In this paper, evaluated the behavior of the workers in the industry toward safety, conducted among workers in workshops and factories in the Omdurman industrial area to identify and highlight the behaviors of workers toward occupational health and safety and their impacts on the environment. Data were collected through a questionnaire given to 58 workers, to explain the attitudes and practices of workers and tanker drivers were observed. Interviews were conducted with number of decision-makers in several departments concerned with the environmental impacts of industry. The workshops studied included welding, carpentry, car repairing, and disposal and restoring batteries. Related, hazards were identified and classified. The caught in or between things had the highest incidence, the machines were the primary cause of fractures, amputation, and wounds (17.2%, 15.5%, 24.2%, respectively). Equipment was leading the main cause of burn and contusive from the heat source (8.6%, 12.1%, respectively). Hazardous materials was the fundamental cause of poisonous from a chemical birth sources, coma, and death (13.8%, 6.9%, respectively).

Keywords: safety, occupational health, worker, industry, unsafe acts, accident.

hearing [4], and ergonomics are related to the space within the workshop building and layout the machine. The size of the workshop does not allow workers to assign separate places for raw materials and products. The passage between devices is so tiny to endanger the workers [5]. With rapid industrial development other minerals like asbestos, radioactive ore, oil and diesel which are also source of occupational disease [6]. The study conducted that the research is still in its infancy in Sudan, various researchers have examined the nature, source, and impacts of accident, injuries, and illnesses that severely comprises workers Health and safety [7].

1 a) Sample Data Manipulation

The data in this study was collected from the following personal information of the targeted people. As shown in figure 1, the sample was randomly selected from most of the education levels present in the study area, to compare the education level to knowledge. Clear successes indicator were given that confirmed the correct sample selection. The type of job affects the safety behaviors of many workers. So the main occupations concerned

5 IV. CONCLUSIONS

44 with the conduct of workers towards occupational safety and health and their impact on the environment were
45 chosen, as shown in figure 2. Sudan has witnessed industrialization since the mid-fifties, such as Soap and Oil,
46 Printing, Soft Drink and sweet, cottage industries, and some utilities such as Railways, Water, and Electricity,
47 etc. Spread in several geographical areas. Workers enrolled at that time were in the order of a few thousand.
48 Legislation concerning worker's safety was first passed as envisaged in the workshops and factories ordinance 1949.
49 Although occupational health (OCH) has been practiced since 1967, its functions were only stipulated after the
50 Public Health Act passed in 1975. These stated establishment a section of OCH [1]. Small workplaces were
51 not considered in safety policies. When a person walks through, he will immediately notice the lack of security,
52 protection is a culture that must be built in all working in these workplaces [2]. The typical, standard physical
53 hazard in most industries is heat, noise, ionizing radiation, and vibration [3]. Mechanical vibration produces a
54 level of danger that affect the nerves, and noise exceeds the permissible level, leads to loss of The study area
55 is characterized by age diversity. It has been observed that age has a direct impact on safety procedures, as in
56 figure 3. Also, practical experiences affect occupational safety and health decisions, so multiple occasions were
57 selected in this study, as shown in figure ??.

58 2 Figure 4: Respondents by experience

59 There are many industrial activities in the study area. Two types of activities were selected that have a hazardous
60 on health in the surrounding residential areas, as in figures ??5 and 6).

61 3 II. Results

62 By analyzing the manipulated data, the leading causes of injuries were identified, as shown in the following tables.
63 Table 2 shows the technical causes that cause accidents 24.1% from the arrangement of the machine, 25.9% from
64 the type of machines, 22.4% from tool, 22.4% from lack of maintenance, and 5.2% from other. As shown in table
65 3, the accidents from medical causes were 37.9% from the poor levels of light, 6.9% from ventilation, 8.6% from
66 noise, 32.8% from poisonous material, and 13.8% from other materials. Table 5 show the accident incidence rate
67 of the different types of accident. The caught in or between things had the highest incidence. The table shows
68 the distribution of accident according to their causes; it is clear from the table that machines were the primary
69 cause of fractures, amputation, and wounds (17.2%, 15.5% and 24.2%, respectively). Equipment was the leading
70 cause of burn and contusive from the heat source (8.6%, 12.1% respectively). Hazardous materials were the
71 fundamental cause of poisonous from a chemical sources birth, coma, and death (13.8%, 6.9%, respectively).

72 4 III. Discussion

73 As indicated by the result, the majority of workers early, young in age and have low levels of education not
74 reached primary school. When investigating their knowledge about hazards exposed from the jobs, the finding
75 revealed that their perception towards such hazards was negatively associated with the magnitude of actual
76 the real situations. This indicates that knowledge about the dangers, risk need high levels of education by
77 which individuals can get, the difference between what kinds of risky work. On the other hand, the findings
78 of the interview showed that although the decision-makers in safety are fully aware of the risk of hazards, they
79 complained about the absence of collaborative work for managing these hazards due to neglecting this issue by
80 the specialized authorities. The most frequent unsafe acts by workers were using defective equipment and failure
81 to use perfect equipment, tools, especially in oil and soap. engineering and food industries. This might be due
82 to the lack of regulation of occupational health and safety in Sudan. As regards unsafe personal factors, attitude
83 had the highest percentage in all industrial this might be due to the bad psychological conditions, including, poor
84 wages, critical incident and accidents were caused by combination of equipment and unsafe personal factors. Most
85 researchers believed that unsafe personal factors were key agent for more than 70% of occupational accidents.

86 5 IV. Conclusions

87 The study reviewed health and safety. Results showed there is no system for safety and health management in
88 Omdurman-Locality. There are no control or safety measures. There are some gaps in the knowledge of workers
89 in safety and health. However, there is generally a positive attitude to improving industrial safety and health
90 among those surveyed and interviewed. A national program for industrial safety management is essential in
91 Sudan.

92 This work can be further extended by studying the impact of environmental pollution, and the effectiveness
93 of safety procedures on productivity.

1

Personal causes	Number of people	Percentage %
Deliberate causes	0	0%
Polemical	17	29.3%
Fatigue	16	27.6%
Carelessness	20	30.5%
Other	5	8.6%
Total	58	100%

As show in table 1 the personal causes of work accidents, no deliberate causes, but 29.3% of personal reasons were polemical, 27.6% of the ground from fatigue, 30.5% carelessness, and 8.6% from other reasons.

Figure 1: Table 1 :

2

Technical causes	Number of people	Percentage %
Arrangement of machines	14	24.1%
Type of machine	15	25.9%
Tools	13	22.4%
Lack of maintenance	13	22.4%
Other	3	5.2%
Total	58	100%

Figure 2: Table 2 :

3

Number of people	Percentage %	Medical cause
22	37.9%	Intensity of light
4	6.9%	Ventilation
5	8.6%	Noise
19	32.8%	Poisonous material
8	13.8%	Others
58	100%	Total

Figure 3: Table 3 :

5 IV. CONCLUSIONS

4

Administrative causes	Number of people	Percentage %
Lack of training	15	25.9%
Lack of follows	20	34.5%
Lack of awareness	8	13.8%
Lack of PPE	9	15.5%
Others	6	10.3%
Total	58	100%

Figure 4: Table 4 :

4

24.1	Unsafe behavior Unsafe work Personal causes
48.3	
27.6	

Figure 5: Table 4

5

Common injuries	Number of people	Percentage %
Fractures	10	17.2%
Amputation	9	15.5%
Death	1	1.7%
Poisonous	8	13.8%
Wounds	14	24.2%
Coma	4	6.9%
Burns	5	8.6%
Contusive	7	12.1%
Others	0	0%
Total	58	100%

Figure 6: Table 5 :

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