objects, and by lifting heavy objects without regard to ergonomic rules. All these factors lead to weakness in the elasticity of the deep veins, resulting in what we called varicose veins. These same factors also lead to hernia in the weak sites of the body – e.g. umbilical hernia and inguinal hernia.

In the present study, being struck by an object, falling at ground level and being hit by falling objects were the leading causes of disabling injuries. Being hit by falling objects and falling from a height were the main causes of fatal injuries (Table 5, page 40). These conclusions are supported by the findings shown in Table 7, page 41: 51.2% of the disabling injuries were caused by human factors. These human factors derive from lack of safety measures at the workplace, lack of health education and the absence of personal protective devices. They explain the gradual increase in the incidence rate per 100 full-time employees from the year 2000 to the year 2002 reported in Table 5. The findings of Huang and Chen (13) in Hong Kong agree with the results of this study. They contended that improving the work environment and promoting safety education among construction workers will help in minimizing or eliminating occupational injuries in the construction industry.

Conclusions
The most common work-related diseases among construction industry workers in Egypt were eye diseases (23.6%), respiratory diseases (11.5%), and cardiovascular diseases (7.2%). The highest incidence rate for fatal injuries was 0.8% in the year 2000. The incidence rates for disabling injuries per 100 full-time employees were 10.2, 11.7, and 18.1 in the years 2000, 2001, and 2002, respectively.

Recommendations
- The availability and use of personal protective devices should be stressed.
- Workers suffering from work-related diseases should be transferred to other jobs.
- Safety measures at the workplace should be put into place and then examined regularly to avoid the risk of injuries.

References

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What is a healthy and safe workplace?
A healthy workplace is an environment where health risks are recognized and controlled if they cannot be removed. In a healthy workplace, the work is designed to be compatible with people’s health needs and limitations, and employees and employers recognize the responsibility they bear for their own health and the health of their colleagues. A safe workplace is an environment where, to the highest degree, workers’ well-being – physical, mental and social – is promoted and maintained. All possible efforts are made to prevent workers’ ill health caused by the working conditions, to protect workers in their employment from factors adverse to their health, and to place and keep workers in work environments that are adapted to their individual physiological and psychological conditions while also promoting and maintaining a work environment that is free of harassment.

Zambian scenario
The opening of copper mines in the early 1930s created various work-related problems warranting the enactment of the first Factories Act in Northern Rhodesia. This law is now known as the Factories Act, or CAP 514 of the laws of Zambia. Later on, other legislative instruments also came into being, all of them geared towards protecting workers at workplaces.

In Zambia, the Factories Act and other supporting legislation are concerned with the provision of suitable physical conditions under which work has to be undertaken. This Factories Act requires that an organization running a factory should have its plans approved by the Labour Department. Among the requirements are basic protective standards covering the minimum working floor space for employees, sanitary, washing, bathing, and restrooms for employees as well as first aid arrangements. Ceilings must conform to a minimum height. Ventilation and lighting requirements must be met. Air conditioning and dust
A healthy and safe workplace

extraction may be required at the plant, and special facilities may have to be provided to ensure employees’ health in a hot, steamy or otherwise potentially injurious process (1). Protective clothing and equipment are required in certain cases. Fire escapes and fire precautions are required. An elaborate code of regulations governing the guarding of machinery, general safety factors, as well as a host of other measures in the copper mining industry of Zambia, are also included in the above Act.

In the late 1990, the copper mining industry had one of the country’s best programmes relating to law on health and safety of employees at workplace. When the main Zambian copper mines industry was operating, statutory duties were allocated to a Divisional General Manager and to managers down to the shop floor supervisor, in order to ensure that the mines operated in a safe and proper manner, and in accordance with the provisions of the Mining Regulations Explosives Act and Regulations and the Environmental Regulations (2). The Safety Policy of the company which was put in place was meant to:

• provide, where reasonably practical, safe and healthy working conditions
• encourage maximum effort towards preventing, avoiding and reducing personal injury and damage to company property
• inculcate into all concerned the principle that management, supervisors and individuals are responsible that the process and the work are carried out safely, efficiently and without damage to property.

Further, it is important to note that all operations in the copper mining industries of Zambia are guided by strict Mining Regulations. For instance, Rule No 215 of the Guide to the Mining Regulations states that “Every workman whilst at work shall be under the personal supervision of a competent person who for the purpose of these Regulations shall be referred to as the person in charge. Such persons in charge shall when employed in underground or open cast workings where rock drilling operations are being carried out or where the nature of the operation is such that danger may arise from the presence of explosives be the holder of a Zambian blasting licence valid for the operation for which he is responsible”.

“The person in charge shall be the first person to enter each workplace assigned to him and the immediate approaches thereto and he shall examine and make safe or cause to be made safe each such workplace”. Since safety was cardinal in the copper mining industry, the company in 1996 came up with motto on safety which was “if it is not safe don’t do it” (3).

General causes of unhealthy and unsafe workplaces

In most cases, accidents are due to failure by either the supervisor or persons involved to follow the safety procedures laid down. In the case of ground accidents, for instance, barring down of the workplace is not effectively done either before the work is started or during the course of the work. Other contributing factors are inadequate leadership or supervision, and inadequate preventive maintenance of machinery and equipment (3).

The accident causation theory proposed by Edward E. Adams (4), suggests that:

1) Failures in the senior management structure (carrying out the health and safety responsibilities of the employer) produce an inadequate health and safety environment (so called root causes of accidents).
2) These structural failures lead to inadequate health and safety behaviour by middle management.
3) In turn, this causes inadequate health and safety performance by supervisors.
4) This creates unsafe activities and conditions at the level of the worker (so called shop floor errors or direct causes).
5) Shop floor errors lead to accidents or dangerous occurrences (called near misses).
6) These produce human and economic loss.

Further Silavwe 1996 states that “The causes of accidents are mainly created by environmental and personal factors.” Other environmental factors could be classified as follows:

• Atmospheric conditions. In cold working conditions, for instance, if there is lack of regular warmth, not only do the hands become numb and tend to fumble but the mind also is less alert than usual.
• Inadequate light in the factory or plant may cause accidents. For instance, work done under artificial light may strain the eyes and cause variation of optical focus.
• Speed can also cause accidents, as workers sometimes lose concentration, resulting in unnecessary accidents.

Other factors could be inadequate leadership or supervision and inadequate preventive maintenance of machinery and equipment.

It should be noted that between 1986
and 1996, before it was privatized, the company recorded a total of 266 fatal accidents at its various Divisions. See the details in Table 1.

It is sad to note that 266 workers died as a result of workplace accidents. Out of the reported 266 fatal accidents, 64 workers died due to falls of ground and 61 workers died due to transport-related accidents.

10,970 non-fatal accidents were reported during the ten years under review. Out of these, a total of 2,007 workers were involved in accidents due to falls of ground.

In 1986, more non-fatal accidents were reported during the ten years under review. Out of these, a total of 2,007 workers were involved in accidents due to falls of ground.

In 1986, more non-fatal accidents were reported than in the other years (Figure 1).

Arising from the foregoing, the company produced the Occupational Health and Safety Policy whose Policy Statement was:

“In order to achieve our vision and business goals, it is critical to create and sustain a safe, accident-free and healthy environment. In this regard, it is mandatory that every individual employee takes a personal responsibility to safeguard themselves, people around them, and Company property at all times. As such, each employee shall conduct all activities in conformity with statutory occupational health and safety requirements as a minimum standard, and abide by this policy at all times. The Company is committed to providing sufficient resources to meet these requirements. It is the Company’s conviction that there is no work of any nature which cannot be carried out in a safe and proper manner. All breaches of the provisions of this policy shall be dealt with in accordance with existing statutory, contractual and domestic disciplinary codes and procedures”. (2)

This policy was meant to remind all workers of their responsibilities towards safety at workplaces. Management therefore changed the motto from “If it is not safe don’t do it” to “If it is not safe, make it safe and do it” (2).

In addition, campaigns to promote safety awareness were carried out by all divisions. These campaigns, aimed at increasing safety awareness among all employees, included the display of safety banners depicting safety messages, posters and lectures as well as articles in divisional newsletters and the Mining Mirrors. Workers’ empowerment seminars and galas also contributed greatly. Safety quizzes were also held as a way of encouraging safety awareness among employees.

Effects of unhealthy and unsafe workplaces

The effects of unhealthy and unsafe workplaces are great. For instance, 266 fatal accidents were reported during the past ten years, which means that 266 families suffered the loss of a breadwinner. Moreover, the contributions that could have benefited the nation through PAYE were also lost.

Any accident affecting an employee,

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SOURCE: (3).

Figure 1. Number of non-fatal accidents reported to the Mines Safety Department
in whatever form, is costly to both the family and the nation as a whole.

**How to attain healthy and safe workplaces**

**Management commitment**

The employer, the company owners, directors, and senior officers have a central role in establishing and communicating their commitment to health and safety. The employer must make it known that health and safety is a top priority by setting goals for the health and safety programme or policy. The programme or policy should have clear objectives. It should set clear performance standards and principles both for disciplining erring workers and for rewarding effective performance. Further, the programme or policy should adequately delegate responsibility, and should provide for the hiring and training competent staff.

The employer, the company owners, directors, and senior officers must know and must comply with the legislation. They must recognize that they are responsible and accountable for health and safety at workplaces.

**Managerial behaviour**

Managerial behaviour in this context refers to the role of the middle management in allocating adequate resources for health and safety. Managers should help the employer to establish a health and safety culture by:

1. following the policies of the employer and ensuring that supervisors also follow them
2. establishing goals that will help implement the employer’s policies and programmes in the local work area;
3. developing and enforcing safe and healthy work procedures
4. allocating adequate resources for health and safety
5. ensuring that supervisors are properly selected and trained in their responsibilities
6. providing supervisors with the necessary authority and responsibility for health and safety
7. holding supervisors accountable for their performance
8. knowing and complying with the legislation, and
9. planning schedules (such as shifts and work processes) with safety in mind.

**Shop floor errors**

Shop floor errors in this context refer to unsafe acts and conditions that directly cause accidents and dangerous occurrences. These errors are usually at the level of the worker, but can involve self-employed persons and others.

Accidents cause injury or illness, and often result in property loss. The seriousness of the loss and injury is often a matter of chance. A “near miss” is a near accident. Near misses may or may not cause property loss.

It should be noted that whilst the employer usually controls the root causes, workers and supervisors often control the direct causes. Therefore, to achieve significant improvement in the health and safety system at workplaces, everyone must work together.

**Conclusion**

Accidents are costly to the individuals, families, their organizations and the nation as a whole. Creating a healthy and safe workplace is therefore crucial. For this reason, occupational health and safety is important to everyone. Employers and workers should help each other to prevent accidents. Accident prevention starts with effective internal responsibility system for occupational health and safety.

**References**


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**Background**

Recognizing the ILO’s efforts of recent years to prevent occupational accidents and diseases worldwide, on 28 April 2004 Uganda inaugurated its first World Day for Safety and Health at Work. The launching and celebration was through the following activities:

1. **Tripartite meetings** were held throughout Uganda, to commemorate the World Day and to take notice of what has been done elsewhere.

Through a series of meetings, it was agreed that the first World Day celebrations should disseminate information and should advocate to raise awareness of occupational health and safety among the general public. Several topical papers were commissioned in this regard:
   - the purpose of the World Day for Safety and Health and why Uganda is celebrating it,
   - occupational diseases and their effects on the Ugandan workforce, citing biological, chemical, physical and psychosocial hazards,
   - the contribution of occupational health to workers’ safety and health,
   - the contribution of labour inspection to the national economy and to development, focusing on the mission, mandate, goals, objectives and functions of the Occupational Safety and Health (OSH) Department as well as on the responsibilities of employers and employees and the necessity of statutory inspections,
   - the importance of inspecting construction sites, underscoring that the development strategy of Uganda needs to focus on improving working conditions in all sectors of the economy, with particular emphasis on the most vibrant and hence the most hazardous sectors, such as construction.

2. **A press conference**, hosted by the Honourable Zoe Bakoko-Bakoru, Minister of Gender, Labour and Social Development, was held on 27 April 2004. This highly successful event had over 50 media houses from print, radio and television in attendance.

In her address, the Hon. Minister emphasized that a systematic approach to OSH management at the enterprise lev-