



**EFFECTS OF HEALTH AND SAFETY STANDARD ON PRODUCTIVITY AT ENGINEERING  
WORK PLACES: A CASE STUDY OF SCIENTIFIC EQUIPMENT DEVELOPMENT  
INSTITUTE, ENUGU (SEDI-E)**

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**Abstract**

*Over years' work related accidents have temporarily or permanently disabled workers as a result of inadequate safety knowledge on handling machines and equipment, neglecting to follow simple procedure in accomplishing task or management not providing the right safety standards and resources for employees. This has also resulted in low productivity by the workers. Implementation of health and safety standards is the only remedy to this organizational challenge on productivity. The aim of this study is to identify the health and safety standards in Scientific Equipment Development Institute, Enugu (SEDI-E), to determine the effect of health and safety standards on employees' productivity, to determine employees' level of understanding of health and safety policies, to assess the attitude of management towards the health and safety of employees and to identify challenges of the implementation of health and safety standards in the organization. This can be achieved by organizing staff and management training on the significant of health and safety measures and its applications on day to day work activities. This training should also have legal back up for effectiveness and efficiency. Results from the descriptive survey design in SEDI-E show that a distinctive number (69) representing 98.57% of the staff agreed in implementation of health and safety standards in response to the questionnaires shared to 70 selected staff members.*

**Keywords:** Health and Safety Standard, Work Related Accident, Productivity, Management, Training

**Introduction**

In this paper, emphasis is on occupational health and safety. Occupational health and safety is a process of ensuring that people stay safe and healthy in the workplace to increase workers' capacity to perform. The quality of the workplace environment has an impact on the level of employees' motivation and performance. The extent to which employees engage with the organization, especially the immediate environment influences their error rate, level of innovation and collaboration with other employees and this affects the number of years they stay on the job. Health and safety standards instituted by organizations is aimed at promoting and maintaining highest degree of physical, mental, social well-being of workers in all sectors that have an impact on the health of employees. Lehtinen, (2001) mentioned that healthy and safe working conditions improve productivity and will thus, help developing countries become competitive in the globalized world economy and that is why many organizations are making efforts to ensure that health and safety is managed at the work place effectively. According to Hughes (2007), health is the protection of the body and mind of people from illness resulting from work. He also defined

safety as a protection of people from physical injury. Hughes (2007), however explained health and safety as the welfare of people at work that is, the protection of facilities to maintain the health and well-being of individuals at the workplace. Safety hazards according to Cole (2002), are those aspects of the work environment that have the potential of immediately causing violent harm to an employee whilst health hazards slowly and cumulatively lead to deterioration of an employee's health.

Productivity is what people can produce at a given period with the least effort and resources. It is also a ratio that measures how well an organization put resources into goods and services. Work environment can be seen as the circumstances, influences, stress, competitive, cultural, demographic, economic regulator and technological factors that affect the survival, operations and growth of an organization.

According to Sundstrom et al., (1994), most people spend about seventy percent of their lives within the work environment which greatly influence their mental status, actions, abilities and performance. Better outcomes and increased productivity is assumed to be the result of better workplace environment.

Some literatures concerning the study of the environment of work indicated that the factors such as dissatisfaction, cluttered workplaces and physical environment are playing a major role in the loss of employees' productivity (Carnevale, 1992). The aim of organizations in instituting health and safety programs is to foster a safe and risk free work environment for the employees and the stakeholders at large to ensure efficiency of personnel and the end result to maximize productivity. Productivity has been an essential contributor to corporate success due to the fact that occupational health and safety has a direct translation of it into cost savings and profitability. An unsatisfactory work environment can have an adverse effect on worker motivation that tends to make minimal effort towards work thereby lowering performance.

Health and Safety standard is very important in the manufacturing sector since a lot of employees have lost their lives whilst others have sustained various degrees of injuries through accidents. Although knowledge and experience are important parts of safe work and prevention of accidents, employees' aptitude and approach to work is also essential for ensuring a healthier working environment. According to Casio (1996), it is easy to bypass the safe way to work but is often the precursor to an accident.

Industrial safety in Nigeria is expected to be both private and public matters. Manufacturing sector can be safe and enjoyable if employees follow the standardized procedures. It is regrettable that both employees and employers have demonstrated minimal commitment to reducing the level of accidents in the industry. Health and safety at the work place involve prevention or reduction of accidents and hazards such as injuries, material for production defects, equipment frequent breakdown, which affects production as well as the prevention of the employee's health problems such as emotional stress, lung diseases due to frequent inhaling of smokes, and so on. Employees are entitled to carry out their work in a safe environment, free from harm. However, in most times the basic right is violated due to a dearth of information on workplace health and safety standards. Individuals are often exposed to health and safety risks from their work. The International Labour Organization (2005) estimates that, some 6,000 workers die each day as a result of work related accidents or illness. The total cost of such accidents and ill health have been estimated by the International Labour Organization to equal 4 per cent of global Gross Domestic Product.

Health and safety if put in place contribute to a good working environment as people spend most of their time at the workplace and so their working environment should be made safe, favorable and conducive to enhance a high level of productivity and to increase income for both the employer and employee. Good health at work helps improve employee's health in general and also the productivity and competitiveness of businesses. Furthermore, workplace problems of health and safety exert a high cost for social protection systems and therefore workers need to be provided with suitable working conditions if their general wellbeing is to be enhanced. According to Stranks (2000) all workers have a right to work in places where risks to their health and safety are properly controlled but due to poverty and illiteracy, people choose to work in any establishment or undertake any duty assigned in order to earn a living.

The main causes of injury in the selected firms for the study include slipping or tripping of employees on the work floors, machine related issues, exposure to noise, odor, dust as well as exposure to various chemicals. To this effect, employers have to take reasonable steps as a legal responsibility to ensure health, safety and welfare of their employees at work in order not to be found liable for any personnel injury. The employers' responsibility to the employees include a duty to provide safe plant and machinery and safe working premises, a safe system of work and competent trained and supervised staff. Certain groups of employees may require more care and supervision than others for example disabled workers, pregnant workers and illiterate workers etc.

Robbins (2004) mentioned that health and safety standards play a vital role in working environment to reduce levels of occupational accidents and diseases, it relies on the cooperation of both employers and employees to ensure a 'self-generating effort' between those who create the risks and those who work with them. It is therefore important for organizations to treat every employee's complaint seriously and to ensure that they feel safe and healthy. A healthy and safe work environment helps to reduce costs and improve organizational effectiveness.

Every business has the legal responsibility to ensure the health and safety of employees and other people affected by the business activities such as customers and suppliers. Poor health and safety practices lead to illness, accidents and significant cost to the business. Effective health and safety practices pay for themselves and improve the reputation organizations have with customers, regulators and the employees.

Because of the non-challant attitudes of some workers, they do not adhere to the precautionary measures put in place with the organization such as wearing of personal protective equipment, machines usage, and inadequate system of delivery and storage of materials, inadequate information for task to be accomplished as well as poor level of understanding of health and safety policies put in place by the organization. The effect of insufficient instructions on safety standards result in accidents leading to rampant loss of lives, injury and damages to properties. This has a negative impact on the organization as employees are not motivated to do their best on the job that trigger performance. Thus, resources that would have been used to develop staff, given as incentives or alternatively expanding the business operations would be used in paying for medical bill, and hiring of temporary workers, paying for compensation and related court issues which also has its impact on the organization.

Muchemedzi and Charamba (2006) explained that accidents do not arise from a single cause but from a combination of factors which act simultaneously. A potentially unsafe situation does not cause an accident until someone is exposed to it. Accidents are caused by the result of unsafe acts or practices (the human element that results from poor attitudes, physical conditions and lack of knowledge or skills to enable one to work safely). They are also caused by the result of unsafe conditions of equipment or materials.

Koopman (2001) stated that accidents bring pain and suffering to the worker and his family. When it results in permanent disability, the consequences are disastrous for both the victim and the company. The victim loses his earning capacity and ability to enjoy a normal active life, and the society and company are deprived of his/her skill and contribution to production.

Manufacturing is one of the most physically challenging environments employees do work. Workers encounter many hazards and other issues that compromise their safety such as excessive noise, operating on dangerous/complex machines and conditions that cause injury to employees. Casio (1996) discovered that machines and work environment have been the major causes of safety hazards. Most employees are less concerned about safety precautions at work, their cost, effect and benefit to themselves and the organization as a whole. This is as a result of ignorance and negligence to safety measures and regulations instituted by the organization.

Some units in Scientific Equipment Development Institute, Enugu (SEDI-E) like machine building and machine are apparently prone to hazards. Therefore, workers there need to observe safety measures properly and always. Workers are exposed to hazards ranging from the use of complex machines and working tools, noise, factory waste, unguarded machinery, inadequate fire precautions and often, working under pressure for high productivity.

The main objectives needed to evaluate the effect of health and safety standards of employees on productivity are:

- i Identify health and safety standards in Scientific Equipment Development Institute, Enugu (SEDI-E)
- ii Determine the effect of health and safety on employees' productivity.
- iii Examine employees level of understanding of health and safety policies of the organization.
- iv Assess the attitude of management towards the health and safety of employees.
- v Identify the challenges of health and safety standards in the organization.

The following research questions were used to achieve the objectives of the study. These include

- i What are the safety standards put in place in the organization?
- ii How has health and safety standards affected employees' productivity?
- iii What is the level of employees understanding of health and safety policies of the organization?
- iv What is the attitude of management towards health and safety of employees?
- v What are the challenges of health and safety standards in the organization?

### **The Concept of Occupational Health Safety (OHS)**

Evidences from survey suggested that in order to understand occupational health safety, there is need to define the concept health. According to the World Health Organization (1999) health is defined as a "state of complete physical, mental and social well-being and not merely the absence of disease or infirmity". Thus health and safety refer to the preventing and protecting people from injury and occupational disease in any form due to hazards and risk that may harm, injure, cause unsafe environment to people or damage equipment or the facilities put in place at the workplace.

The International Labour Organization (1996) defines occupational health and safety as a discipline with a broad scope involving many specialized fields. In its broadest sense, it aims at the:

- promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations;
- prevention among workers of adverse effects on health caused by their working conditions;
- protection of workers in their employment from risks resulting from factors adverse to health;
- placing and maintenance of workers in an occupational environment adapted to physical and mental needs; and
- adaptation of work to humans.

A healthy workplace as defined by World Health organization (1999) as one in which workers and managers collaborate to use a continual improvement process to protect and promote the health, safety and well-being of workers and the sustainability of the workplace by considering the following, based on identified needs:

- health and safety concerns in the physical work environment;
- health, safety and well-being concerns in the psychosocial work environment including organization of work and workplace culture;
- personal health resources in the workplace; and
- ways of participating in the community to improve the health of workers, their families and other members of the community.

To achieve occupational safety and health objectives, all parties involved at the workplace such as management, personnel or workers and union officials and people concerned have to be visibly committed to the health and safety programmes.

### **Safety and Productivity in Organization**

Productivity is generally seen as a measure of the amount of output generated per unit of input. According to Holzer & Seok-Hwan (2004), productivity and performance are functions of many factors ranging from top management support, committed personnel at all levels, a performance measurement system, employee training, reward structures, community involvement and feedback to correction of budget-management decisions. It is thus

important to build up capacities for productivity improvement. Productivity at organizational and process levels has focused on manufacturing industry; it is based on an assumption of an organizational core process as an industrial production process (Gummeson, 1992).

McCunney (2001) mentioned that productivity is also often linked to discussions concerning general efficiency. Productivity is understood in a wider sense and combined to rationalization of work and improvement of wellbeing in the work community. He also viewed productivity as a conceptual phenomenon and widening the concept weakens its characteristics as a tool for research and development.

Muchemedzi and Charamba (2006), viewed occupational health and safety as a science concerned with health in its relation to work or working environment. Oxenburgh et al. (2004), intimated that the health and safety of all employees is closely linked to the company's productivity in all workplaces. In most cases, occupational health safety is largely measured by negative outcomes such as workplace injury and illness but these measures have a shortfall, for instance, a low incidence of injury does not necessarily mean that adequate safety systems and controls are in place (Health and Safety Executives, 2006).

### **Measuring Productivity**

A number of researchers have been developing performance indicators to measure the impacts of a range of workplace practices on firm level performance. Examples include gross or net sales per worker, the ratio of physical input to output, and the scrap rate and uptime for production equipment (Gunderson, 2002).

Brinkerhoff and Dressler (1990) opined that productivity reflects results as a function of effort. They however intimated that efficiency (input to output) and effectiveness (the process of getting a task done) do not necessarily equate with productivity, because the latter takes into account the end cost of the product or service. For example, working harder may not have the same productivity payoffs as working smarter, which may not require more time or effort. Productivity depends on an individual's job performance (Jex, 1998).

The Health and Safety Executive (2006) argued that there is clearly a vicious circle in that, a healthy and happy workforce is more productive, leading to increased investment in health and safety to reduce accidents, which in turn leads to further productivity gains. The Health and Safety Executive (2006) further explained that genuine productivity gains can be realized by those businesses that invest in high performance health and safety practices.

### **The Employee and the Working Environment**

Employees physical well-being such as the mind and body needs to be in a state of good health and well-being to concentrate on a job assigned. This is a prime prerequisite for productivity. High productivity brings a sense of achievement for the individual as well as marginal increase in profits for the organization (Fleming & Lardner, 2000). A positive working environment for employees is the common goal of all employers and managers in organizations. Such an environment encompasses favorable working conditions, timely management feedback and an understanding of job goals and prorates.

According to Jorma (2004), a safe workplace is an environment where, to the highest degree, workers well-being physical, mental and social is promoted and maintained.

Work environment means the milieus around a person; it is the social and professional environment in which a person is supposed to interact with a number of people. The working environment according to Wheatley (1995), is the quality of working conditions; however, the procedures for trying to develop the workplace standard should also be addressed. The working environment has been a priority area in several countries and these countries have requirements for systematic efforts in this field.

According to Knight (2005), a positive working environment for employees is the common goal of all good owners and managers of an organization. Such an environment encompasses favorable working conditions, good ventilation, timely management feedback and an understanding of job goals. He also states that creating a working environment in which employees are productive is essential to increased profits for an organization, corporation or small business.

### **Management Commitment**

According to Jorma (2004), management is responsible for most of the safety issues within organizations because they control the assignment of resources, establish and implement the methods of work as well as develop the policies.

Safety improvement of an organization is the responsibility of top management, though an important role is played by workers and team members in order to achieve the overall objectives of the company (Beach, 2000). He also revealed that management's commitment to safety is a major factor affecting the success of safety programmes in industries and this parameter is capable of discriminating between high and low accident rate organizations.

According to Less (2002), management commitment can manifest itself through management participation in safety committees, consideration of safety in job design, review of pace of work, accident and near-miss incident investigation and follow up actions, priority assigned for safety, occupational health programmes etc.

(Mearns, et al, 2003) mentioned that safety commitment of the management must result in an observable activity on the part of the management and must be demonstrated in their behaviour as well as their words.

Management commitment determines the phase and the direction of safety and health activities and it portrays the values that are placed on health and safety management as preserved by the employees. Without employees' involvement health and safety performance would never be achieved. When both management commitment and employees' involvement are in joint hands in pursuit for a safe and healthy working environment, there would be high result of achievement of health and safety.

### **Employee Involvement in Health and Safety**

Workers involvement may be termed as the willingness of employees' to accept the responsibility for their behavior in creating an accident free workplace. From a management perspective, workers' involvement refers to the ability of workers to directly influence or form the management and work process in an enterprise (Cohen and Michael, 1999). Workers involvement is a process involving behavior that is dynamic, action oriented and problem solving that continuously seeks for improvement in a safety conscious environment.

According to Schein (1992), there is the need to increase safety for individuals if they are to feel secure and capable of changing behaviors and adapting to new policies and procedures. Thus, 'employees' involvement' means that employees have a substantial voice in health and safety decisions and also have the leverage to initiate and achieve health and safety improvement as well as hold themselves and others accountable for their actions as well as taking pride in the health and safety performance record of the organization.

The term employee refers to every individual in the organization at every level and in every department. Workers involvement is a process involving behavior that is dynamic, action oriented and problem solving that continuously seeks for improvement in a safety conscious environment.

Contrast to workers' involvement is the 'employee pessimism' which could paralyze problem solving activities of individuals and workgroups and carries enormous negative consequences for individual and for the organization where they work. From the view of Oyan (2000), employee pessimism was found to correlate with poor safety performance. He also viewed workers' involvement as a means of improving both the overall health and safety conditions at the workplace. When employees are aware of managements sincere interest in them, they will respond in kind. In this type of an environment on the one hand, employee innovation, thinking, suggestion and decision making evolve to the benefit of the employee and the organization alike.

High employee morale and commitment reduces absenteeism and turnover. High employee morale and commitment are associated with high safety performance. According to Alazab (2003), based on the studies of the United Kingdom's health and safety executive found out that companies that promoted employee involvement in health and safety issues frequently saw a reduction in accidents and injuries and there was improvement in hazards awareness and productivity.

### Organizational Role (Employer) and Attitude to Health and Safety

If the employer is not genuinely interested in preventing accidents, no one else is likely to be since the basic fact applies to every level of management and supervision.

The role of organizations in the promotion of safety can be termed as safety management and it is often reflected on the attitudes, beliefs, perceptions and values that employee share in relation to safety. According to Stranks (2000), health and safety is a major concern for management. Management attitudes and approach towards accident prevention are always reflected in the supervisory force of the organization.

Beach (2000) stated that accident control programme results from top management's efforts and it is demonstrated if employee's co-operation and participation are to be obtained. This implies that management should setup information and control systems so that the health and safety performances are monitored and corrective actions are initiated when required.

### Methodology

The methodology for this study is based on a descriptive survey design carried out in Scientific Equipment Development Institute, Enugu (SEDI-E) on the work related accidents. Our research is that the institute will do better if health and safety standards involving the employees and employer are considered and strictly adhered to. During the survey, staff respondents were carefully selected and seventy (70) questionnaires were equally distributed to the respondents. The research instrument captured among others the following questions:

- i What are the safety standards put in place in the organization?
- ii How has health and safety standards affected employees' productivity?
- iii What is the level of employees understanding of health and safety policies of the organization?
- iv What is the attitude of management towards health and safety of employees?
- v What are the challenges of health and safety standards in the organization?

The respondents were asked to state either agree (A) or disagree (D) to the statements in the questionnaires.

SEDI-E is a federal government parastatal, a subdivision of National Agency for Science and Engineering Infrastructure (NASeni) in the Presidency. Her primary mandate is to manufacture scientific equipment used in both primary and secondary schools in Nigeria such as the Primary Science Kits (PSK) and the Junior Science Kits (JSK). As at April 2021, SE DI-E staff population was found to be five hundred and ten (510) which include one Managing Director (MD), two Directors and six Deputy Directors. There are about forty-five (45) Units and its Heads. Among which are Machine Building, Machine Shop, Advanced Manufacturing Unit, Assembling and Packaging Unit, Audit Unit, Automobile Maintenance Unit, Electrical Maintenance Unit, Electroplating Unit, Foundry Unit, Finish Product Unit, Optical Unit, Glassblowing Production Unit, Glassblowing R & D Unit, Graduation Unit, ICT Maintenance Unit, ICT R & D Unit, General Administration Unit, Human Resource Unit and so on.

### Results and Discussion

The results of the **research question 'I'** raised via questionnaires to selected 70 staff respondents of SEDI-E is shown in the table 1.

**Table 1:** Shows the level of employees' awareness of health and safety standards (procedures) in SEDI-E

S/No	Statement	Yes N(%)	No N(%)	Total N(%)
i.	Does SEDI-E have a safety policy?	2(2.86)	68(97.14)	70(100)
ii.	Does SEDI-E have a written health and safety policy that includes programmes and procedures for environmental, health, safety (EHS) and working conditions?	3(4.29)	67(95.71)	
iii.	Is SEDI-E written health and safety policy or programs available to all employees?	4(5.70)	66(94.30)	70(100)

iv.	Are you aware of any accidents that had occurred in SEDI-E for the past 3years?	69(98.6)	1(1.43)	70(100)
v.	Does SEDI-E have procedures for employees for reporting pains or other diseases in relation to the job processes?	5(7.14)	65(92.86)	70(100)
vi.	Does SEDI-E have an accident book or similar accident record system?	6(8.57)	64(91.43)	70(100)

Source: Descriptive Survey data, SEDI-E. (2021).

From table I, it can be observed that 68 respondents representing 97.14% out of 70 (100%) selected respondent mentioned that SEDI-E does not have health and safety policy while 2 respondents representing 2.86% intimated that SEDI-E have health and safety policy. This indicates that health and safety measures are not taking seriously. This will definitely affect productivity and performance negativity as some of the staff will not take work seriously. This is in a bid to avoid accident, injury and even death. Sixty seven (67) respondents representing 95.71% said that SEDI-E does not have a written health and safety policy that includes programmes and procedures for environmental, health, safety (EHS) and working conditions; however, 3 respondents representing 4.29% said that SEDI-E have a written health and safety policy.

It can also be noted apparently that 66 of the respondents representing 94.30% postulated that written health and safety policy or programs are not available to all the SEDI-E staff while 4 respondents representing 5.70% said that written health and safety policy or programs are available to SED-E staff. Majority (69) respondents representing 98.57% mentioned that they are aware of any accidents that have occurred in SEDI-E for the past 3years while 1 respondent representing 1.43% said that he is not aware of any accidents that had occurred in SEDI-E for the past 3years.

65 respondents representing 92.86% mentioned that SEDI-E does not have procedures for employees for reporting pains or other diseases in relation to the job processes while 5 respondents representing 7.14% said that SEDI-E have procedures for employees for reporting pains or other diseases in relation to the job processes.

Pantry (1995) mentioned that management should ensure that procedures are implemented by making supervisors accountable for health and safety performance in their areas. He further stressed that employees must be provided with help, guidance and training they may need to carry out their responsibilities effectively. This is further supported by International Labour Organization's (1996) assertion that placing and maintenance of workers in an occupational environment adapt to physical and mental needs and adaptation of work to humans.

It can further be observed that greater majority (64) of the respondents representing 91.43% said that SEDI-E does not have an accident book or similar accident record system while the remaining 6 respondents representing 8.57% said that SEDI-E have an accident book or similar accident record system in the past.

The results of the **research question 'II'** raised via questionnaires to selected 70 staff respondents of SEDI-E is shown in the table 2.

**Table 2:** Shows the effect of health and safety standards (procedures) on productivity in SEDI-E

S/No	Statement	Agree N(%)	Disagree N(%)	Total N(%)
i.	Implementation of health and safety act in SEDI-E will make staff feel safe	67(95.71)	3(4.29)	70(100)
ii.	Adequate and comfortable working environment as well as safety practices will affect productivity positively	68(97.14)	2(2.86)	70(100)
iii.	The practice of health and safety will protect SEDI-E staff from injuries and illness	70(100)	00(00)	70(100)

iv	To enhance productivity, Job-specific health and safety training/education must be provided to all staff prior to starting a new job	66(94.30)	4(5.70)	70(100)
v.	Favorable environmental conditions (less noise, suitable temperature etc.) provided at the work place will increase productivity at work	69(98.57)	1(1.43)	70(100)
vi.	All staff are given the opportunity to voice out health and safety opinions/concerns	60(85.71)	10(14.29)	70(100)
vii.	Health and safety standards affects productivity	65(92.86)	5(7.14)	70(100)

Source: Descriptive Survey data, SEDI-E. (2021).

**Table 2** shows that 67 respondents representing 95.71% agreed that Implementation of health and safety act in SEDI-E will make staff feel safe while 3 respondents representing 4.29% disagreed that Implementation of health and safety act in SEDI-E will make staff feel safe. Majority (68) of the respondents representing 97.14% agreed that adequate and comfortable working environment as well as safety practices will affect productivity positively while 2 respondents representing 2.86% disagreed. It is worthy of note that 70 respondents representing 100% agreed that the practice of health and safety will protect SEDI-E staff from injuries and illness. Furthermore, 66 respondents representing 94.30% agreed that to enhance productivity, Job-specific health and safety training/education must be provided to all staff prior to starting a new job, 4 respondents representing 5.70% disagreed. Majority (69) of the respondents representing 98.57% agreed that favorable environmental conditions (less noise, suitable temperature etc.) provided at the work place will increase productivity at work while 1 respondent representing 1.43% disagreed.

60 respondents agreed that all staff are given the opportunity to voice out health and safety opinions/concerns while 10 respondents disagreed. Finally, 65 respondents agreed that health and safety standards affects productivity, 5 of the respondents disagreed.

The results of the **research question ‘III’** raised via questionnaires to selected 70 staff respondents of SEDI-E is shown in the table 3.

**Table 3:** Shows the employees understanding of safety procedure/policies in SEDI-E

S/No	Statement	Agree N(%)	Disagree N(%)	Total N(%)
i.	Do you think SEDI-E have a copy of health and safety manual and orientation programs for health and safety?	3(4.29)	67(95.71)	70(100)
ii.	Do you think SEDI-E have health and safety procedures and regulations?	2(2.86)	68(97.14)	70(100)
iii.	Are only approved working standards used when performing work at SEDI-E?	4(5.70)	66(94.30)	70(100)
iv.	Do you think SEDI-E staff have any knowledge of the Health and Safety Act?	5(7.14)	65(92.86)	70(100)
v.	Has SEDI-E management advised staff on the health and safety aspect of their job schedule?	6(8.57)	64(91.43)	70(100)
vi.	Do you think SEDI-E staff notify management about the health problems experienced in performing their duties?	68(97.14)	2(2.86)	70(100)

Source: Descriptive Survey data, SEDI-E. (2021)

From table 3, 67 of the respondents representing 95.71% disagreed that SEDI-E have any copy of health and safety manual and orientation programs for health and safety while 3 respondents agreed. 68 respondents disagreed that SEDI-E have health and safety procedures and regulations while agreed. Also, 66 of the respondents disagreed that only approved working standards are used when performing work at SEDI-E while 4 respondents agree that only approved working standards are used when performing work at SEDI-E. 65 disagreed that SEDI-E staff have any knowledge of the Health and Safety Act, 5 of the respondents agreed. 64 respondents disagreed that SEDI-E management advised staff on the health and safety aspect of their job schedule while 6 respondents agreed. Majority (68) of the respondents representing 97.14% agreed that SEDI-E staff notify management about the health problems experienced in performing their duties while 2 of the respondents representing 2.86% disagreed. The results of the **research question ‘IV’** raised via questionnaires to selected 70 staff respondents of SEDI-E is shown in the table 4.

**Table 4:** Shows the attitude of management towards health and safety of employees in SEDI-E

S/No	Statement	Agree N (%)	Disagree N (%)	Total N (%)
i.	Do you think SEDI-E management provide training for heads of units and new employees to enhance their capability in conducting work programme	2(2.86)	68(97.14)	
ii.	Do you think SEDI-E management evaluate/ investigate accidents upon the receipt of accident report	5(7.14)	65(92.86)	
iii.	Do you think SEDI-E management support the usage of standard forms and implementation of safety precautions	4(5.70)	66(94.30)	

Source: Descriptive Survey data, SEDI-E. (2021).

Table 4 indicates that Majority (68) of the respondents representing 97.14% disagreed that SEDI-E management provide training for heads of units and new employees to enhance their capability in conducting work programme while 2 of the respondents representing 2.86% agreed that SEDI-E management provide training for heads of units and new employees to enhance their capability in conducting work programme. 65 respondents representing 92.86% disagreed that SEDI-E management evaluate/ investigate accidents upon the receipt of accident report while 5 respondents representing 7.14% agreed. It is also noted that 66 of the respondents disagreed that SEDI-E management support the usage of standard forms and implementation of safety precautions while 4 of the respondents agreed.

The results of the **research question ‘V’** raised the views of management and employees on the challenges associated with health and safety standards in SEDI-E.

Management agreed that there are some key challenges facing SEDI-E in managing occupational health and safety.

Notable of these challenges are:

- i Non availability of health and safety professionals to be recruited
- ii Lack of capacity to design health and safety policy
- iii Lack of funding to provide all the necessary resources needed to manage health and safety practices to meet what had been described as health and safety best practice.
- iv Employees do not adhere to the rules and procedures set to ensuring health and safety in the organization
- v Most of employees were reluctant to use the safety equipment that had been provided by management.
- vi Staff believed that they are not given adequate training; fear of victimization for reporting accidents to either heads of units or directors. Staff also asserted that there is discrimination with regards to how reported cases of accidents are treated by their respective unit heads.

## **Conclusion**

The study reveals the effects of health and safety standards on productivity in engineering work places. Over years in SEDI-E, health and safety measures have not been taken seriously. From the results of the descriptive survey research carried out in SEDI-E, some of the challenges of lack of implementation of health and safety is seen from both management and employees (staff) perspectives. Management challenges are non-availability of health and safety professionals to be recruited, lack of capacity to design health and safety policy, lack of funding to provide all the necessary resources needed to manage health and safety practices to meet what had been described as health and safety best practice, employees do not adhere to the rules and procedures set to ensuring health and safety in the organization and most of employees are reluctant to use the safety equipment that had been provided by management. Employee (staff) challenges are that they are not given adequate training; fear of victimization for reporting accidents to either head of units or directors. Staff also asserted that there is discrimination with regards to how reported cases of accidents are treated by their respective head of units. If health and safety is put into practice, it will contribute to a good working environment as people spend most of their time at the workplace and so their working environment should be made safe, favorable and conducive to enhance a high level of productivity and to increase income for both the employer and employee.

## **Recommendations**

Health and safety culture should be encouraged. Companies with good health and safety cultures have employees with positive patterns of attitude towards health and safety practices. Companies need to gather safety related information, measure safety performance and bring people together to learn how to work more safely.

Health and Safety training and written health and safety policy that includes programmes and procedures for environmental, health, safety (EHS) and working conditions should be made available in organizations that want its employees productive. This will enhance the growth and development of the organization.

Employer should setup information and control systems so that the health and safety performances are monitored and corrective actions are initiated when required.

Safety signs should be boldly made and adhere to, in workshops, laboratories and offices used by both old and new employees in the organization.

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