

**ORGANIZATIONAL FACTORS INFLUENCING OCCUPATIONAL
SAFETY AND HEALTH PRACTICES: A COMPARATIVE STUDY OF
NEW KENYA COOPERATIVE CREAMERIES AND DAIMA DAIRY**

DANSON MWANGI NYAMBURA


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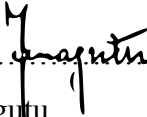
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DECLARATION

This research project is my original work and has not been presented for the award of a degree in any other University.

Signature  Date 17/08/2021
Mr. Danson Mwangi Nyambura
C51/12483/2018

This research project has been submitted for examination with my approval as the University Supervisor.

Signature  Date 20/08/2021
Dr. Justine Magutu
Department of Political Science and Public Administration
University of Nairobi

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DEDICATION

This research is dedicated to my dear wife Martha Wanjiru, my precious son Simon Mugih, my dear daughter named after my mother Eunice Nyambura and my wonderful mother. May the Lord be with you and guide you to achieve all your hearts' desires.

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ABBREVIATIONS/ACRONYMS

CCOHS	Canadian Centre for Occupation Health & Safety
CIP	Cleaning in Place
DOSHS	Directorate of Occupational Safety and Health Services
EU	European Union
ILO	International Labour Organization
KCC	Kenya Cooperative Creameries
KEBS	Kenya Bureau of Standards
MOH	Ministry of Health
MOL	Ministry of Labour
NACOSH	National Advisory Committee on Occupation Safety and Health
NCOSH	National Council for Occupational Safety and Health
NEW KCC	New Kenya Cooperative Creameries Limited
NIOSH	National Institute for Occupational Safety and Health
OSH	Occupational Safety and Health
OSHA	Occupational Safety and Health Act
PPE	Personal Protective Equipment
UN	United Nations
USA	United States of America
WHO	World Health Organization
WIBA	Work Injury Benefits Act

ABSTRACT

All organizations have a moral and legal duty to protect the wellbeing, health and safety of workers. Despite the enactment of the OSH Act in 2007, with aim of preventing OSH related accidents/injuries/illnesses at all workplaces in Kenya, there are still increasing number of injuries/accidents/illness including deaths reported by DOSHS. The main objective of the study was to determine the organizational factors that influence OSH practices at New KCC Dandora Factory and Daima Dairy. The specific objectives were; to establish to what extent staff protection, participation and training influence OSH practices at New KCC Dandora Factory and Daima Dairy. The study employed cross-sectional comparative case study research design. Data was collected using a standard self-administered questionnaire, checklist and interview. The results were presented in tables with frequencies and percentages for comparison. The findings of the study were that New KCC and Daima were at par on levels of staff protection, while New KCC was doing better on staff participation and staff training. On protection of staff, there were measures in place to protect staff including statutory inspection of the key machinery, shielding/guarding of hazardous machines, provision of good working environment and provision of protective gear. On staff participation, findings indicated that there were platforms for staff to report incidents and share ideas for improvement as outlined in OSHA 2007. On training, it was established that fire safety and first aid trainings were common and were confirmed to be effective in preventing injuries/accidents/illnesses. In conclusion, the three factors were confirmed to have great impact on OSH practices and if streamlined would lead to better performance of the OSH programs. The study recommends that DOSHS should be more proactive in conducting spot checks at all workplaces to confirm safety status; workplaces should apply best practices and a proactive approach surpassing minimum requirements required by regulations; the organizations should increase the frequency of evaluation of the OSH performance and stop relying on mandatory annual self-audits for continuous improvement and look into implementing ISO 45001 to increase safety and health compliance; employee medical examinations should be conducted regularly; and that there should be refresher trainings for first aid and fire safety as per applicable regulations and introduction of training needs analysis as well as impact analysis after training.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Occupational safety and health (OSH) ought to be a concern of all workplaces because it has great impact on the overall performance of an organization. OSH is about protecting workers in regard to their health, welfare and safety while working or employment (MOH, 2014). According to Reynolds (2015) the discipline of OSH deals with how to protect people and preserve capital resources while at work. The International Labour Organization (ILO) (2008) has defined OSH as the science of recognizing, anticipating, evaluating and controlling the hazards that arise at work while taking into account the people and the neighboring environment. It is a multidisciplinary field focused on preventing workplace hazards that ranges from preventing violence, to ergonomics, epidemiology and toxicology. The right to safety and health work environment is enshrined in the United Nations Universal Declaration of Human Rights, 1948 which states that *“Everyone has the right to work, to free choice of employment, to just and favourable conditions of work” (Article 23)*. Similarly, the United Nations International Covenant on Economic, Social and Cultural Rights, 1976 states that *“The States Parties to the present Covenant recognize the right of everyone to the enjoyment of just and favourable conditions of work, which ensure, in particular safe and healthy working conditions” (Article 7)*. OSH is of major concern to all managers especially the human resource managers since apart from affecting workers, it also affects customers, clients, family members, neighbors and visitors who relate to the organization.

Different organization have different probability of experiencing OSH risks and hazards which include the presence of hazardous substances, diseases, unsafe working conditions, lack of sanitation facilities, lack of first aid, lack of information, not using or improper use of protective clothing (World Bank, 2002). Any workplace can present hazard(s) to the public even when the people are not directly working at the workplace i.e. environmental pollution like water, air and noise or in cases of fatal accidents leading to the loss of friends/relatives/neighbors. Indeed, OSH has become a global concern to everyone whether entrepreneurs, employers, workers, stakeholders or governments as global statistics show that daily 1,000 people die from occupational accidents while 6,500 die from illnesses associated with work. Annually, 2.78 million workers perish from work related occupation accidents and illnesses. In addition, it is estimated that four percent of the

global Gross Domestic Product (GDP) is lost every year as a result of OSH related accidents and illnesses (ILO, 2019).

Although interest in OSH has increased more recently, safety and health at work is not new. The OSH concept can be traced back to eighteenth century through the contribution of Benadino Ramazzini, a physician and professor of medicine through his book on occupational medicine which was originally written in Latin titled "*De Morbis Artificum Diatriba*" interpreted as "Diseases of Workers". He was the first to establish the relationship between patients' occupation and their illness (Ramazzini, 1700). In fact, after it was noted that OSH was responsible for many diseases, it became a custom for doctors to enquire details of one's occupation when examining patients as Benadino Ramazzini proposed. However, OSH gained prominence in the eighteenth and nineteenth century during industrial revolution in the United States and Europe. During this period, there were many accidents, injuries, diseases and deaths that were related to OSH which provoked issues of safety at work to be addressed and legislation later followed in many countries (ILO, 2019). Workers organized trade unions to solve their problems which included unsafe working conditions and low wages. Strikes were most often used to force employers to meet their demands. In Europe, the United Kingdom was the first to standardize OSH through the adoption of the 'Factories Act' in 1802 whose objective was to protect the people who were working in factories and mills. Later, the Health and Safety at Work Act of 1974 became the source of most OSH laws in the United Kingdom (Torrington, 2005). The Act put the duty of protecting the safety, health and wellbeing of employees while at work on employers. It detailed the duties of employers as well as other people visiting workplace. Currently, there are minimum OSH requirements before joining the European Union (EU) which helps Europe in ensuring members adhere to OSH requirements (Castella, 2002).

In the USA, one of the key OSH legislation was the OSH Act of 1970 by President Richard Nixon after rampant complains by workers regarding OSH accidents and deaths. The objective was to force employers to make their workplace safe from OSH hazards for all workers. The Act led to establishment of three agencies i.e. Occupational Safety and Health Review Commission (OSHRC), Occupation Safety and Health Administration (OSHA) and the National Institute for Occupation Safety and Health (NIOSH) (Dessler, 2008). The ILO has established 189 conventions

to help promote decent and productive work environment. Many countries have voluntarily ratified some of the conventions including Kenya.

Apart from being a legal requirement, OSH has been embraced for several reasons. OSH has a positive relationship with loyalty and productivity of employees because it ensures workers are safe and that they work in an environment free of hazards and as a result they concentrate more on productivity. OSH has also been associated with good quality work and job satisfaction which improve the general quality of life of the worker and community (WHO, 2002). Addressing OSH challenges will help in addressing continued human suffering and in achieving Sustainable Development Goals (SDG) number 3 and 8 (ILO, 2019). An average person spends a third of his life at work. As such, it is expected that the workplace will be safe for this worker who has sacrificed a third of his life to working. Accidents at the workplace cause the employer and the people affected to incur direct and indirect costs. Direct costs include medical expenses to treat the injured/victims, compensation expenses (as determined by court of law), absence from work, economic loss to employer, downtime, repair/replacement/renovation costs of damaged property, overtime, loss of expertise, time spent on investigations, recruitment and retraining workers to replace the injured or those who died after accident. On the other hand, indirect costs which sometimes cannot be quantified included death causing sorrow, psychological effect to workers who witness an accident of their colleague, handicap, human suffering and physical pain (Allan, 2009).

In Kenya, OSH legislation started with the Factories Act (cap 514 of the laws of Kenya) of 1950 which commenced on 1st September 1951. The Act covered only industrial working places. To enlarge its scope, in 1990, this was revised to the Factories and Other places of Work Act (Cap 514 of the laws of Kenya). The Act had details on sanitation, ventilation, overcrowding among other OSH requirements. However, in an effort to include all workplaces this Act was repealed and enacted as the Occupation Safety and Health Act No 15 of 2007 which commenced in October, 2007 (OSHA, 2007). A related legislation is the Work Injury Benefits Act 2007 (WIBA, 2007) which deals with the compensation of those affected by occupational injuries/accidents.

Kenya is currently guided by the OSHA 2007 and WIBA 2007 on matters of OSH (MOL, 2013). The two Acts are administrated by the Directorate of Occupation Safety and Health Services

(DOSHS) one of the departments under the Ministry of Labour. The OSHA (2007) applies to all workplaces and its purpose is protecting the wellbeing, health and safety of workers, public and environment. According to OSHA 2007 (section 44), all workplaces are supposed to apply for registration by the DOSHS before operation. In addition, OSH officers from the DOSHS are required to visit all workplaces (both private and public) to carryout inspections for compliance to the OSHA 2007 which includes fire safety. The DOSHS department also has responsibilities of carrying out research, training, awareness, maintaining records of workplace accidents/illnesses by using effective reporting and record keeping systems, advising/encouraging employers/workers to decrease hazards at workplace and device effective health & safety programs (MOL, 2013).

The OSH Act (2007) in section 6 has clearly detailed the responsibilities of the employer, workers and the government regarding OSH at the workplace. For instance, the employer is required to make sure that the place of work is safe and free from hazard to health. This can be achieved by supervision, training as well as informing workers of any risks and carrying out risk assessments. The employer is also supposed to ensure registration of workplace annually, provide welfare facilities for workers (section 91 to 95), institute health and safety committees (section 9), prepare the safety and health policy statement (section 7) and ensure participation of workers in OSH matters (section 13 (b)).

As outlined in section 13, the employees are supposed to ensure their own and others health and safety by always wearing protective equipment or clothing as required and provided by the employer, complying with health and safety procedures as instructed by people in authority, not mishandling or misusing facilities provided for the sake of ensuring OSH, cooperating on all OSH related matters with employer, reporting to the supervisor any situation which present a hazard, any accident or injury that arises while working. No person is allowed to engage, in unnecessary running, fighting, boisterous play, practical jokes, scuffling, jumping or such behavior which can create a hazard to other people at work (section 16). Failure of an employer or employee to adhere to the OSH Act provisions is an offense and on conviction of affected party, he/she can be liable to a fine, imprisonment term or both as applicable (OSHA 2007 section 6 (7) and section 13 (2)). The government on the other hand is required to pass supportive legislation and put in place supportive structures and offices i.e. the DOSHS, the NCOSH (National Council for Occupational Safety and Health) and Technical Advisory committee (Sections 23, 27, 30).

The OSH Act (2007) is supposed to be implemented in all sectors of the economy i.e. all workplaces where anyone is at work temporarily or permanently. This study is interested in OSH practices in the dairy sector. The Kenya Dairy sector plays a key part in the economy of Kenya. According to USAID and climate focus report of 2018, the dairy sector contributes 14% of Kenya's agricultural GDP (www.feedthefuture.com). The sector plays a vital role in poverty reduction as well as achieving the current governments big four agendas specifically food security and manufacturing. It is a major sector where people are employed directly at the milk collection centers, processing factories, sales and marketing as well as indirectly through milk suppliers who are farmers all over Kenya. The dairy sector provides employment to many people.

The focus of the study was on OSH practices at the New Kenya Cooperative Creameries Limited (New KCC) and Daima Dairy (owned by Devyani Food Industries Kenya Limited). New KCC is a new name for the oldest and biggest milk processor in Eastern and Central Africa. It has been in existence since 1925 as the Kenya Cooperative Creameries (KCC). However, in early 1990s the company collapsed due to poor management. In the year 2000 the government reclaimed the KCC assets and made it a parastatal and renamed it New KCC in June, 2003 with hope that once it stabilizes the ownership would be reverted to farmers. Most factories have since been revived and the company is currently stable at the market despite the stiff competition after liberalization of the dairy industry in 1991. The company currently has a market share of 35% with products ranging from, fresh milk, butter, ghee, milk powder (whole and skim), fermented milk (yoghurt and mala), cheese, and long life. New KCC has eight (8) processing factories namely Dandora Factory, Kitale, Sotik, Kiganjo, Miritini, Cheese, Eldoret and Nyahururu factories. Each factory is specialized in processing of specific milk products. New KCC also owns more than thirteen milk cooling plants, numerous satellite coolers and eight sales depots for distribution of its products across the country. Milk suppliers benefit from New KCC stabilization of milk prices, access to farm inputs through a check-off system such as quality animal feeds, Artificial insemination (AI) and agro-vets who provide farmers with support towards high quality milk as well as increasing milk production (www.newkcc.co.ke). This study will be based at Dandora Factory located off Kagundo road, Nairobi County.

The Daima dairy is currently owned by Devyani Food Industries Kenya Limited as from 16th August 2019. It was acquired from Sameer group of companies which had also acquired the dairy

from Adarsh Developers in March 2009. Sameer Agriculture and Livestock Kenya Limited invested in machinery and the developing of the brand name 'Daima' which has grown to its current range of products which include fresh milk, flavored milk, butter, ghee, cheese, long life milk, cream and fermented milk (lala) and yoghurt. The dairy also owns a juice and water plant. Daima dairy supports farmers through training e.g. animal health management, productivity management among others. Devyani Food Industries Kenya Limited, bought the two processing factories in Kenya one located at Nairobi County (Clesoi road off Lungalunga road) and another at Nakuru county Salgaa along the Nakuru to Eldoret highway (www.daimafrica.com). This study will be based at the plant in Nairobi County.

1.2 Statement of the research problem

Occupational health and safety is a concern for organizations globally. In Kenya, the issues of OSH are often highlighted by mainstream media especially when there are visible hazards to the public like collapsing buildings, explosions, fires, upsurge of occupational related diseases or death. A good example is the Nakumatt Holdings Limited fire incidence back on 28th Jan 2009, at Nakumatt Downtown Supermarket in Nairobi where 27 people were confirmed dead among them employees of the supermarket and customers (Daily Nation Newspaper, 1st February 2009). The security guard in charge at the time of accident, for fear of looting had decided to close the only exit which also served as the entrance. This led to injuries and loss of lives. All workers need to be sensitized or trained on OSH requirements to avoid a repeat of such a tragedy.

The dairy industries in Kenya have not been spared by OSH hazards. For instance, there was a fire incidence in the year 2012 at New KCC Eldoret factory which caused structural damages. Similarly, in the year 2016, a steam boiler exploded at New KCC Nyahururu factory causing structural damages and injuring six people (www.nation.co.ke). In 2019 a worker was boiled to death in a milk tank at Sameer Agriculture Limited (Daima Dairy) Milk factory at Salgaa along Nakuru-Eldoret highway (Daily Nation, 12th June 2019). This was caused by lack of coordination where a supervisor instructed the victim to clean the tank manually and while inside the tank, another person opened the automatic system consisting of hot water and corrosive cleaning detergents leading to the accident causing severe burns on his body (Daily Nation, 12th June 2019).

Besides implementing safety measures, all workplaces are supposed to be kept free of diseases that can affect the workers and hence impact their productivity. For example, since the late 1980s organizations have had to deal with the impact of HIV/AIDS which negatively affected workers and their families (ILO, 2019). The impact of the Corona Virus (COVID -19) pandemic (at the time of research) was felt in many workplaces as many people had lost their jobs, forced to work from home, work more/less hours or take forced leaves. To reduce chances of infection/transmission of COVID 19, WHO had recommended washing hands thoroughly with soap and running water regularly or use of alcohol based hand sanitizers, avoiding crowds, keeping social distancing (at least 1.5 meters), avoiding touching mouth, nose, eyes and always wearing masks while in public (www.who.int). The New KCC and Daima dairy are expected to develop policies and put in place measures to manage the corona virus pandemic in order to avoid transmission through their production and distribution channels. Workers were required to maintain social distancing at work, wear protective gear and those who showed symptoms of the corona virus disease were to be allowed to seek medication and be quarantined for at least 14 days among other measures (WHO, 2020).

Besides determining the factors that influence OSH practices at New KCC Dandora Factory and Daima Dairy the study sought to establish whether these factors differed according to the type ownership of the factory. The assumption is that because they face similar hazards they will handle OSH issues in the same way. According to a survey done in the United Kingdom on behalf of SGS in 2018, there was an assumption that private sector prioritizes safety and health matters than public sector (www.shponline.uk). This study also sought to verify that assumption bearing in mind that New KCC Dandora Factory is state owned (public) while Daima Dairy is privately owned, with aim of determining between the two, which one is taking OSH practices more seriously hence the need for the comparative study.

Although there have been studies on OSH in Kenya including: the extent of OSH regulations compliance (Ayubu, 2010); factors influencing the use of Personal Protective Equipment's (PPEs) (Wanjiku, 2017); factors affecting OSH implementation (Gaceri, 2015 & Nyambura, 2013) and impact of Occupational hazards on workers (Gakenia, 2008), there had been no specific study done in the dairy sector hence the knowledge gap caused by lack of empirical study.

1.3 Research questions

The overall research question was: ‘what organizational factors influence OSH practices at New KCC Dandora Factory and Daima Dairy?’ The specific research questions were:

- i. How does the protection of staff from workplace hazards influence OSH practices at New KCC Dandora Factory and Daima Dairy?
- ii. How does staff participation in health and safety influence OSH practices at New KCC Dandora Factory and Daima Dairy?
- iii. How does staff training in safety and health influence OSH practices at New KCC Dandora Factory and Daima Dairy?

1.4 Objectives of the Study

The major research objective was to determine the factors that influence OSH practices at New KCC Dandora Factory and Daima Dairy. The specific research objectives were:

- i. To establish to what extent the protection of staff from workplace hazards influences OSH practices at New KCC Dandora Factory and Daima Dairy.
- ii. To determine to what extent staff participation in safety and health influences OSH practices at New KCC Dandora Factory and Daima Dairy.
- iii. To assess the extent to which staff training in safety and health influences OSH practices at New KCC Dandora Factory and Daima Dairy.

1.5 Justification of the study

The study is expected to benefit the human resource (HR) managers, policy makers and researchers. The duty of taking care of employees’ health and safety is the responsibility of the employer (OSHA 2007 section 6). The HR managers as representatives of the employers will benefit from the findings of the study by getting guidance on developing efficient and effective OSH policies/programs which will help them overcome challenges noted while implementing OSH practices. There has always been a gap on effective OSH practices which is the reason accidents/injuries and diseases related to OSH are encountered. They will use the findings of this research to help create a safer working environment and as a result reduce accidents costs like downtime, staff recruitment/retraining, human suffering/sorrow, cost of repairs and compensation

claims (Allan, 2009). Resources saved by maintaining a safe and healthy environment can be used elsewhere to develop the organization and motivate the workers. In practice, study findings will be used by New KCC Dandora Factory and Daima Dairy, other dairy industries as well as workplace's with similar work environments understand details on how to overcome the challenges of efficiently implementing the OSH practices. This will in turn help the affected organizations to comply with OSHA 2007.

The findings of the study will enable policy makers including those in the dairy industries make better policies related to OSH. It will enable policy makers at the government level to streamline the implementation of the OSHA 2007 which is very elaborate on prevention of OSH related injuries, accidents and diseases which are still being reported by registered workplaces including Daima and New KCC. NCOSH will use the study findings while formulating and developing national OSH policies affecting the dairy industries by considering the findings of this study.

The research has also contributed to knowledge by helping scholars, public administrators and researchers who will use the findings as a basis to advance research in the OSH area especially in the dairy sector. The researcher did not find any previous study done on factors influencing OSH practices in the dairy industries before the research. This study will be used a basis for future research.

1.6 Scope of the study

The study covered Daima Dairy located at Clesoi road off Lungalunga road and New KCC Dandora Factory located off Kagundo road both in Nairobi county. The two factories were randomly selected because they are a good representation of major activities that take place at dairy factories in the country. The period of study was from 2007-2020 in order to cover progress of implementing the OSHA 2007 since enactment.

1.7 Limitations of the study

There was a challenge of unavailability of respondents due to nature of their work schedules which was overcome by the researcher communicating frequently and working with the participant availability. Some participants were not able to fill the questionnaire fully due to literateness however, the researcher assisted them by interpreting and documenting their responses. The

distance between the sites of study was also a limitation due to travelling costs where the researcher had to harmonize visits with availability of participants to reduce travelling costs and printing of the questionnaires which increased the financial.

The major limitation of the study was the Corona virus pandemic which affected accessibility of respondents. This was mostly felt at Daima Dairy where there were major changes on normal shift due to the reduced processing volumes. This challenge was overcome by adhering to the set COVID-19 rules and working with staff that were available at the time of the research. Another limitation was accuracy of the information provided due to confidential nature owing to fear of the unknown implications. For those who filled the questionnaire(s), the researcher assured the participants of confidentiality of the information they provided. Observation and checklist were used to verify the responses provided through interview and questionnaire, therefore this limitation was well controlled and managed during the study. However, it was not possible to access the inspection reports, minutes of the safety and health committee and accidents register at Daima Dairy as they were considered confidential. The researcher therefore relied on friendly conversation with respondents to get details of OSH practices. At New KCC, the inspection reports, minutes of the safety and health committee and accidents register were available to the researcher.

1.8 Definition and operationalization of key concepts

Accident is an occurrence that arises out of or in the progress of working which results into a fatal /non-fatal injury (ILO, 2015). It is unexpected, unforeseen, unplanned and unwanted occurrence or event that causes damage or loss of materials or properties, injury or death (MOL, 2013). The study adopted the definition by MOL (2013).

Health is a condition of being complete in mental, physical and social wellbeing and in this regard not just nonexistence of illness (WHO, 1948). It's worker's liberty from bodily or emotional sickness (MOL, 2013). The study adopted the definition by MOL (2013).

Occupational accident is one that results from and in the process of a worker's employment and which results to bodily injury (MOL, 2013). It's an unforeseen and unplanned incidence comprising violent deeds, resulting or connected with working which end up with employee(s) suffering bodily injury, illness or demise (ILO, 2019). The study adopted the definition by ILO (2019).

Occupational Health is the state of promoting and maintaining best possible level of social, physical & mental well-being of employees no matter their job by control of risks, averting going away from health, adapting individuals to their work and vice versa (ILO/WHO,1950). The study adopted the definition by Joint ILO/WHO (1950).

Occupational safety and health is the discipline of recognizing, evaluating, anticipating and controlling of hazards resulting at work that may harm health & wellbeing of employees, environment and adjacent societies (ILO, 2008). It's a field of public health that specializes in studying tendency in diseases and injuries among the working people, suggesting and executing the tactics to avert them(www.verywellhealth.com). The study adopted the definition by ILO (2008).

OSHA 2007 is the Kenyan act of parliament that commenced on 26th October 2007 which highlights provisions for health, safety & welfare of employees as well as people lawfully at working places.

Staff participation is worker's involvement in the affairs of an organization (ILO, 2019). It is the process in an organization that allows workers to exert influence over their work/working condition (MOL, 2013). The study adopted the definition by MOL (2013).

Staff Training is the aspect of teaching prevailing workforce of an organization which benefit both by developing of the worker and increase in productivity of the organization (www.eztalks.com, 2020). It's a program intended to grow the knowhow, technological skills, creating value and efficiency in order to carry out specific duties better (www.mbaskool.com, 2020). The study adopted the definition by www.mbaskool.com (2020)

Worker is a person who has been hired for remunerations or of service & comprises trainee as well as indentured learner (MOL, 2013). It's an employee who performs work for monetary compensation (ILO, 2019). The study adopted the MOL (2013).

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviewed relevant literature on OSH practices. The chapter is divided into sub-sections as per the study objectives: protection of staff from workplace hazards, staff participation and staff training in OSH. The chapter also presents the theoretical and conceptual framework of the study, and gives the research hypotheses.

2.2 Staff Protection from Occupational Health and Safety hazards

Occupational health can be said to be worker's freedom from physical and emotive sickness (Nzuve, 2007). When an employee reports to work, he/she should be assured of their health and safety for them to concentrate on the duties assigned and hence become more productive. It's the sole role of the employer to offer a safe environment for workers (Armstrong, 2009) by putting in place OSH measures for ensuring the highest possible mental, physical and social wellbeing of all workers as well as other people present at work (Kenei, 1995). The employer can protect workers from hazards, by employing different techniques the most effective being hazard elimination where the hazard is removed from workplace (e.g. change of technology, removal of asbestos), followed by substitution (where there is use of something else less hazardous e.g. replacing use of benzene that causes cancer with ketones or using the substance in a different form like pallets instead of powder to eliminate dust), then engineering controls (isolate people from the hazard using process control, isolation and guarding e.g. automation of machines, use of wet cleaning instead of sweeping to reduce dust) then administrative or work practice controls (where one alters the manner of working by raising awareness and re-scheduling work like fumigation when there are few staff at work) and providing of appropriate PPE to protect the workers (NIOSH, 2020).

It is advisable for the employer to use the four methods of hazards control listed above and only employ PPE as last resort so as to reduce/eliminate the risks of illness and injury. Elimination and substitution being the most effective are obviously the most difficult control measure but easy to implement at the initial design and development stages. Engineering controls are given priority in reducing source of exposure or hazard (CCOHS, 2020). The employer has the responsibility to

ensure the machinery in use are well guarded in order to prevent hazard from moving/rotating parts, flying chips, sharp edges among other hazards that can result from use of machinery. For the prime movers and transmission machinery they should be well secured/fenced (OSHA 2007 section 56 and 58). Such controls can also be applied where there is noise exposure by reducing vibrations using rubber mountings for machinery or using sound absorbing acoustical tiles, walls, ceilings and floors. Medical examination should be done to those working in sections with health hazards like noise at the cost of the employer (OSHA 2007 section 103 (3)).

When it comes to work practice or administrative controls, it involves job rotation like in noisy areas, personnel hygiene, good housekeeping, enhanced supervision and carrying out maintenance which are effective on reducing hazards exposure (CCOHS, 2020). Job rotation has been related with enhanced skills, increased motivation, reduction of exposure to risk hazards to staff especially in repetitive tasks and improved productivity (Bennet, 2003). Regular machine maintenance is very important and when its omitted or inadequately done it can lead to accidents and exposure of workers to several hazards. As part of the maintenance, OSHA 2007 directs employers to ensure thorough examination by approved inspectors at regular intervals or after major repairs where the workplace makes use of hoists & lifts (section 63 (2)), chains, ropes & lifting tackle (section 64 (1, d)), steam boilers (article 68 (8)), air receivers (section 69 (5)) and refrigeration plants (section 71 (3)). Machine inspection should be a routine done by all operators to ensure all moving parts are working optimally for their safety as well as their colleagues' safety. An emergency stop is an important control which can be used by machine operator to stop the machine instantly in case of any emergency to avert harm and reduce hazards by cutting off power supply (ILO, 2008). Permit to work should be issued to those working in hazardous process or work environment (OSHA, 2007 section 96). Employers should also ensure workstations, work tasks and equipment's are ergonomically designed so staff employees work without any strain including mental strain (OSHA 2007, section 76(2))

Even with these control measures being implemented, there are still high chances of workers being exposed to hazards thereby use of PPE is most of the time inevitable. A PPE is gear worn to protect the user against the risks of accidents or adverse effects on health (ILO, 2020). There are PPEs designed for protection of body parts like hearing (earmuffs, earplugs), eye protection (safety glasses, goggles), head (helmets), hands/arm (gloves), feet (safety footwear/shoes) and whole body

(aprons, coveralls). Situations that warrant use of PPE include reducing risks/injuries like eyes (flying objects, dust, acids splashes, intense light), head (falling objects, bumping stationary objects), feet (slippery floor/surfaces, hot surfaces, sharp objects), hands (bruises, cuts, fractures, burns, abrasions) and body protection (intense heat/cold, hazardous chemicals) (ILO, 2019).

PPE must be worn properly and used consistently in order to be effective. When the PPEs are non-fitting, they may be uncomfortable for the worker and may also become a source of hazard by preventing them to work safely e.g. heat stress (ILO, 2020). The employer has the responsibility to ensure the PPEs are properly worn to best serve their purpose. It is an offence punishable by law for a worker (employee) to fail to use PPEs provided or fail to follow instruction(s) on safety and health as directed by a person in authority (OSHA, 2007). This will only be properly done when the workers are trained on how to use PPE properly coupled with detecting and reporting faults on the PPEs like masks, dustcoats, gumboots, safety helmets and face shields (ILO, 2020).

There are standards set for each PPE to be effective in controlling expected hazards e.g. in Europe, all products that have met minimum health and safety requirements have European Union's mark of conformity – CE (Taylor, 2011). As such, selection of PPE should be carefully done by working closely with manufacturers and suppliers who can advise on most suitable PPEs in order to ensure minimum required specifications are met. Other things to consider include durability, fitness, comfort, weight, maintenance, cleaning and compatibility especially where more than one PPE are used (Taylor, 2011). Employer should provide a dry lockable place to store the PPEs while not in use. The PPEs should also be maintained clean whereas faulty PPEs should be replaced when needed. Instruction for disposal of non-reusable and faulty PPEs should be obtained from the manufacturers (ILO, 2020). Employers are given the responsibility of providing, maintaining, replacing PPEs without charging workers, so that their protection level is not compromised (Taylor, 2011 and OSHA 2007 section 101).

Most workers view 'health and safety' as a measure put in place to make it more difficult for them to meet or carry out their daily duties (Taylor, 2011). The reasons why workers fail to wear PPEs include unavailability, discomfort while using, unattractiveness of the PPE, lack of supervisor influence, interference with working speed, influence from other workers who do not wear PPEs, perception that brief tasks do not require PPE while some feel PPE is not necessary due to lack of

knowledge on the hazard exposed (Wanjiku, 2017). According to Taylor (2011), such negative attitude towards the wearing of PPEs can be improved by the employer not only providing the PPEs but also involving employees in the of conducting of risk assessment, selecting PPEs, the developing PPE programs and incorporating user preferences and feedback in OHS trainings. In this regard, OSHA (2007 section 96) cautions that employees who misuse PPEs or gears provided for the sake of safety and health face sanctions from the law.

Section 81 and 82 of the OSHA 2007 act elaborates on staff provisions in cases of fire and evacuation procedures. The employer also has a responsibility of protecting the workers from fire. To curb cases of fire, the management opt to provide diverse types of fire extinguishers to fight various types of fire which are in working condition, inspected/maintained, positioned at strategic positions among other firefighting equipment's like smoke detectors and water hoses. There should be trained fire marshals to help in cases of fires at all times. The workplaces should have an audible alarm system and clearly marked exits and emergency routes for ease of running for safety in cases of emergencies. There should be clearly marked gangways and the means of escape shall not be obstructed. All emergency cases, should lead to an assembly point where people gather for safety and headcount. There should also be planned fire drills and other methods of creating awareness on safety and health at the workplaces. As a good practice contacts of the trained fire marshals and fire brigade should be available to staff at notice boards (OSHA 2007 section 81 and 82).

Everybody is affected by occupational hazards and accidents and as a result, the protection measures should be frequently updated in order to take care of new risks/hazards (ILO 2008). This study has filled the gap of influence of staff protection on OSH practices at NEW KCC Dandora Factory and Daima Dairy, by comparing their performances and making recommendations of improving the same for better performance of the OSH program. Though in Kenya the OSHA 2007 is mandatory for all workplaces, this study has determined whether implementation is being done, whether DOSHS oversees the implementation and found out why accidents are still being reported in the dairy industries.

2.3 Staff participation in Occupational Health and Safety

All staff including management, supervisors and junior employees have a duty to participate in OSH programs because everyone has a role to play led by top management as an example. The

first step of the management participation should be in coming up with health and safety policy which should incorporate the general policy statement, organization description and details of how the health and safety policy will be implemented including consequences for not implementing procedures (Armstrong, 2009). Second is budget allocation for the purpose of maintaining the OSH program. By just directing those in supervision to watch out and instructing workers to work safely is pointless unless the seriousness of top management is shown and witnessed by all workers (Dessler, 2008).

The benefits of effective health and safety programs are demonstrated by reduced accidents/injury/illnesses, reduced downtime, saving of revenue that would be spent on compensation, renovation, repairs, court cases, absenteeism and less retraining for those replacing injured workers which can then be channeled to better the work environment and encourage workers through motivation (O'Brien, 2001). Workers' performance/productivity is improved when they are involved because they raise their views including suggestions of improvement and they know approaches of preventing injuries. To create a safe, healthy and safety conscious workplace environment requires combined efforts by top management, supervisors and junior workers. According to a survey done by Larson & Lafasto (2001), success in a team largely depends on having competent team members led by leaders with vision in a supportive environment.

Employee are the paramount origin of suggestions on the safety and health system and they always accept the health & safety program when they are involved during development. The management should listen to their diverse suggestions including those opposing to build a sustainable team (Wachs, 2005). All workers including management are required to take part in ensuring their own health and safety as well as of all other workers affected by their actions or oversights at work. They should join hands in all deliberations concerning OSH and especially reporting any hazardous situation noted for action. An organization can achieve optimal health through environmental safety, different lifestyles and organizational change (Armstrong, 2010). The participation should also be there between the management and trade unions who represent the employees. A successful OSH program is a combined effort between the management, supervisors and junior staff. Top management can encourage participation to health and safety programs by clarifying to those in supervision together with junior staff of the importance of OSH and the costs

that come with violating the guidelines i.e. fines, compensation, loss of revenue (Cascio, 2006). Once the supervisors and junior staff understands the importance of the health and safety program, it is expected they will cooperate. It's a fact that organizations that implement successful OSH programs/policies take longer periods to report accident/injury (James, 1991). Such organizations achieve higher standards of safety and health when they set up clear and acceptable OSH programs/policies (Alan & Tim, 2001).

OSHA 2007 recommends collaboration with stakeholders. The participation in OSH by different parties has been stressed in the OSHA (2007 article 9) which requires that where there are twenty or more person employed at a workplace there should be established a safety and health committee. The safety and health committee should have representation from all sections of the organization and is responsible for the implementation of the OSH practices. The committee is expected to be active especially in investigating causes of accidents and putting in place measures to prevent recurrence. Members of the committees should report all situation likely to cause accidents or illnesses at their work station (MOL, 2013). The health and safety committee should be involved in risk assessment, health and safety audits and be in the forefront making suggestions on improving the OSH programs (Armstrong, 2009). The workers have a right to declare their safety concerns including liberty not to work in station/place they feel present danger to their safety (OSHA 2007 article 8). Participation by management and juniors is therefore required for the safety and health programs to achieve objectives of minimizing workplace related illnesses and accidents (Armstrong, 2012).

This study has filled the gap of staff participation influence on OSH practices at NEW KCC Dandora Factory and Daima Dairy by comparing their performances and making recommendations of improving the same for better performance of the OSH programs. This study has determined why accidents are still being reported in the dairy industries due to the lapse in participation by both management and junior staff.

2.4 Staff training in Occupational Health and Safety

With globalization, risks and hazards are always changing at workplaces. As result, it's the management responsibility to ensure that members of staff are continuously trained on OSH hazards. Employers should always have financial resources set aside for purposes of training and

awareness. While planning for a training, identification of training needs is the first step. Training aims at increasing the knowledge and skills and as a result improve performance of employees (Hr-survey.com, 2016). Management team, supervisory staff and all junior workers require to be trained (Armstrong, 2006). Training on safety and health is very important for an effective Safety and Health program especially on elementary skills, first aid, and firefighting (Castella, 2002). It's not just enough to form a health and safety committee, the members should attend OSH related training in order to help them in the duties they will be assigned especially on OSH trends meaning the training ought to be refreshed (Armstrong, 2009).

Health and safety trainings should always be provided to assist staff to acquire skills, knowledge and change worker's attitudes. Such trainings should incorporate safe working environment, awareness on prevention of diseases. OSH related illness take long to manifest e.g. musculoskeletal disorders, work related cancers, skin diseases, loss of sight, loss of hearing, stress and mental health disorders among others (Armstrong, 2006). The first aid and fire marshals training should be refreshed as need be e.g. first aid every year (Castella, 2002). Safety trainings provide staff with details of possible hazards and preventive measures to take eliminate or control the hazards. Such trainings touching on OSH hazards, should be continuous and ought to be given priority when staff join an organization during induction, when there are transfers to other locations and when new machinery(s) are procured or new technology used (Armstrong, 2009). In Kenya, the Ministry of Labour recommends that OSH trainings should cover among others safe working methods, safe machine/equipment operation, proper use of PPEs, occupation accidents, HIV & AIDs, handling of hazardous chemicals, drugs and substance abuse (MOL, 2013). OSHA 2007 article 98 requires supervision of apprentice and indentured learners. No employee should be allowed to operate machines and equipment's without training. It's also an offence under the OSHA 2007 to fail to train operator if the machine is likely to cause bodily injury (section 99).

Where employees are working with hazardous chemicals, the workers should to be trained on appropriate PPE to use, handling of the chemicals and first aid to be done in cases of spillages on the body. There should be no drinking or eating of food including chewing in such areas, due to the chances of hazards (OSHA 2007 section 100). All chemicals should be well labelled and have material safety data sheets to help workers take action in cases of accidents. At these trainings, possible hazards are discussed and measures required to prevent accidents and injuries

brainstormed (Armstrong 2009). When workers are trained, they will be able to help in prevention of OSH accidents and illnesses.

It cannot be assumed that employees are always aware of their responsibilities on complying with the OSH requirements. There should be awareness and training to remind which is the duty of the employer. When workers are trained, they become more motivated and require less supervision and guidance on OSH matters (Gupta, 2006). Without training, the workers will be at liberty to assume the rules sets regarding OSH due to lack of awareness. This will mainly affect the workers who join the organization especially if not taken through induction processes on importance of complying with OSH guidelines. Though employees view OSH measures as invasive and inefficient, it's very important for management to change this attitude (Balkin, Cardy & Mejia 2007). The best way is to lead by examples. It's the duty of management to ensure the workers comply with the safety and health guidelines through training and sensitization.

Talking to employees generally about OSH at work is not sufficient training (Allan, 2009). The venue for training and communication language should be given priority by the trainers as they play a big part in effectiveness of training. Training methods adopted helps employees develop interest in learning new ideas and skills thus lively methods like use of slides displays, discussions and videos should be employed (Silverman, 2015). After training, the employer is supposed to carry out effectiveness or impact of the training to ensure the objective of training is met (Kirkpatrick & Kirkpatrick, 2016). The training will not be of any help if it does not assist the employees/employer to comply with the OSH practices. An effective OSH training is expected to prevent hazards that may cause injury/accidents (Armstrong 2009). The major causes of accidents include overlook of details, poor supervision, inadequate education and training on hazard identification/control (Allan, 2009).

This study has filled the gap that has been existing on influence of staff training on OSH practices at New KCC Dandora Factory and Daima Dairy by comparing their performances and making recommendations of improving the same for better performance of the OSH programs.

2.5 Theoretical Framework

This study was guided by Domino theory

2.5.1 The Domino Theory

The Domino theory, developed by Herbert William Heinrich (1931), expounds how accidents happen. The theory postulates that injuries result from a chain of five events (dominoes). They are summarized as ancestry/social environment, fault of person, unsafe acts/mechanical or physical hazards, accidents and lastly injuries (Figure 1). When one domino falls, it creates a chain reaction by knocking down the next until injury occur though this can be prevented by removing either of the dominos. Removal of third domino (unsafe acts/hazardous conditions) is considered the most effective in preventing accident/injury as they cause majority of accidents (Heinrich, 1959). The concept is to focus on the factors then eliminate or reduce them (mistakes of people). According to Heinrich, an accident is any unintended, uncontrolled incident that can cause bodily injury or damage to property and its the point of attack not the injury or property damage as an accident may or may not result to injury e.g. a person can slip and fall but an injury may or may not result.

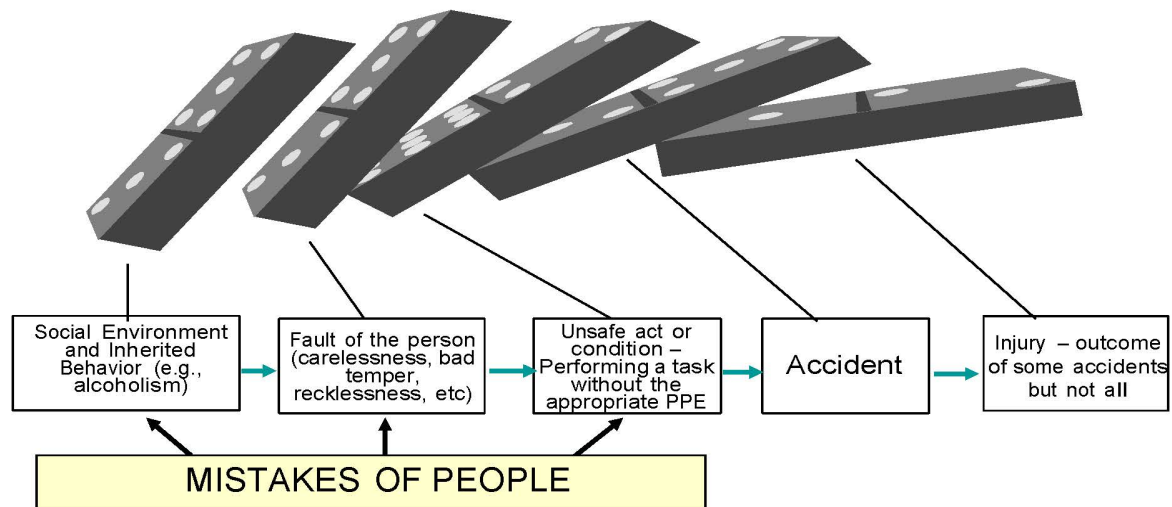


Figure 2.1: Heinrich's Domino Theory (source: www.ijraset.com, International Journal for Research – Neeta Saxema, 2017)

Each of the dominos is viewed as dependent of the preceding i.e. an injury results from an accident, which is caused by human acts or mechanical/physical hazards like working without appropriate PPE or missing machine guards. Faults of person include carelessness, ignorance, poorly

maintained or designed equipment or failure to act cause hazards. The human faults are acquired or inherited from social environment/ancestry (where a person is brought up). The biggest responsibility on preventing unsafe acts is given to the management.

This theory relates to the three independent variables specifically considering his summary that of all accidents that happen, 88% caused by unsafe acts, 10% by unsafe working conditions & 2% by acts of God (Heinrich, 1931). In an organization the major components can be listed as structure, technology and people, this theory highlights people as the major cause of accidents, followed by structure (production techniques) and technological factors (mechanical/physical hazards). The unsafe acts can be managed using human resource practices like staff participation in implementing OSH programs/policies, following rules and regulations set, creating awareness, training, reward system and inspection which can reduce the bulk of the accidents (88%). Unsafe working conditions can be managed using technological solutions e.g. improvement of working environment and production techniques.

The proposed corrective action sequence by this theory are the three 'E's i.e. engineering, education and enforcement. Staff protection can be related to the engineering control, staff training to education while staff participation can be related to enforcement on part of supervisors/management and administration of the OSHA 2007 by DOSHS. Engineering refers to controls of hazards using design or process change in order to reduce risk of accident e.g. machine guarding to prevent contacting moving parts. Education involve training of workers of issues of safety so that they can change or improve their behaviors e.g. proper use of PPE and safe machine operation. Enforcement of the safety practices (company policies, operating procedures, rules and regulations) involve teamwork by management and junior staff in order to ensure safety rules are followed by all. There are roles of management, supervisors and other junior workers where all are required to ensure they do their part so that the OSH programme/policy can be successful in achieving its goals of preventing accidents and injuries.

When staff do not wear PPEs as required may be due to hot working environment, this theory postulates that the rate of occurrence of accidents and injury can increase dramatically. However this can be corrected by staff protection (reduction of environment temperature), staff training on

importance of the PPEs, coupled with staff participation (safety rules enforcement by supervisors, punishment of violators and establishment of safety and health policy by management).

The main weaknesses of this theory is that its too much simplified/generalized and it highlights single cause of accidents (mistakes of people) where as there may be many interacting factors especially in complex systems like sytem design, workload, organizational/managerial failures. Other theories that could have been used include Abraham Maslow’s hierarchy of needs theory and behavior reasoning theory but were not adequate to explain the relationship between the dependent & independent variables.

2.5.2 Conceptual Framework

This study used a conceptual framework to relate the dependent & independent variables.

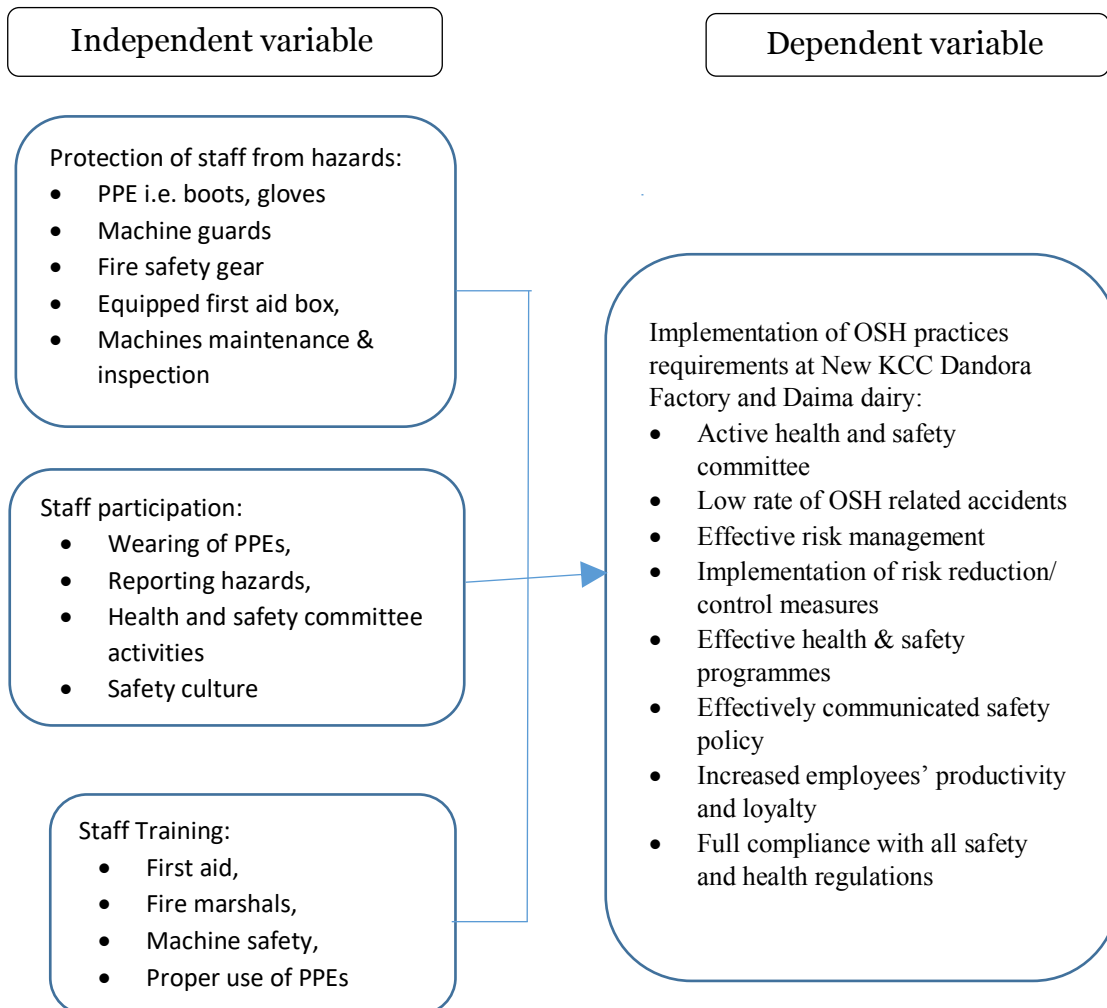


Figure 2.2: Conceptual model (Source: Author, 2020).

The three independent variables were staff protection, participation and training which have an impact on the dependent variable which is OSH practices. An effective OSH program is driven by participation of management and junior workers, where the management provide the resources to protect the junior workers while the junior workers make suggestions for continual improvement being the most affected in cases of health and safety matters. This commitment is continually improved through training in order to learn better ways of being safer at work with globalization and changes in technology which come with new hazards. OSHA 2007 guides management and junior staff to know their inputs and expectation thus is part of dependent variable. Indicators of effective of OSH programs include: low rate of OSH related accidents, effective risk assessment, implementation of risk reduction/control measures, increased employees' productivity/loyalty and full compliance with all safety and health regulations.

2.6 Research Hypotheses

The study was based on the following hypotheses:

- H₁: The protection of staff from hazards has influence on implementing of OSH practices at New KCC Dandora and Daima Dairy.
- H₂: Participation of staff has influence on implementing of OSH practices at New KCC Dandora and Daima Dairy.
- H₃: Training of staff has influence on implementing OSH practices at New KCC Dandora and Daima Dairy.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The chapter describes the methods and procedures used in the study. It consists of the research design, target population, sampling frame, sampling technique and sample size, data collection, data reliability/validity, ethical considerations and data analysis.

3.2 Research Design

A research design is a plan, structure and strategy of investigating to allow obtaining answers to research questions (Ogula, 2005). This study employed cross-sectional comparative case study research design. A mixed approach involving the use of questionnaires, observation and direct interviews was employed due to their advantage of reinforcing each other strengths and weaknesses as well as enabling collection of both qualitative and quantitative data. A case study is important as it is comprehensive in understanding of a case which is used to comprehend other cases occurrence (Yomere, 1999). This was of great help in understanding the factors influencing OSH practices at New KCC Dandora Factory and Daima Dairy which can then be replicated in similar workplaces.

3.3 Target population and sampling frame

The targeted population were the 300 people employed directly or indirectly at New KCC Dandora Factory and 200 at Daima Dairy. They included representatives of the Human Resource, the representative in charge of OSH, the management team, staff leaders/representatives (welfare), security team and all the members of staff working at New KCC Dandora Factory and Daima Dairy where they all composed the sampling frame at the time of study.

3.4 Sampling Techniques and sample size

This study used both probability and non-probability sampling design. When working with a study population with less than 10,000 then a sample size of 10 – 30% is a good representation (Mugenda and Mugenda, 2013). The researcher was therefore targeting at least 10% of the members of staff at New KCC and Daima. Those who were working at New KCC were estimated to be 300 and

therefore 60 of them represented 20% while at Daima there were estimated 200 people working at the factory and therefore 25 respondents represented 12.5% as presented in Table 3.1.

Table 3.1: Sampling Guide

	Target Population	Target sample (respondents)	Respondents employed directly by the dairy factories.	Security Guards employed indirectly
New KCC Dandora Factory	300	60	18 management and 37 junior staff	2 management and 3 junior staff
Daima Dairy	200	25	10 management 13 junior staff	1 management 1 Junior staff

Source: Author, 2020

A total of 21 respondents (10.5% of population) from Daima and 59 (20% of population) from New KCC participated in the study either by interview, questionnaire or both. Management and junior members of staff were randomly selected while issuing questionnaires in order for the researcher to get the views of both positions. In most cases, issues of OSH are mainly viewed as only the responsibility of management. 11 of management staff were accessed at Daima Dairy and 19 at New KCC. For interview, the researcher used purposive sampling to select staff leaders/representatives (welfare), safety and health officers in charge, senior managers, human resource representatives and machines maintenance in charge (engineers) who are known to have great impact on OSH practices where a total of 10 were interviewed at New KCC and 7 at Daima Dairy. Milk processing involves use of pressure vessels, corrosive chemicals, hot liquids, moving parts and machinery where the higher chances of OSH issues were expected to be reported and thus the higher number of sampled respondents were in the production, engineering and quality departments. The security guards are most often left out in the OSH program, even though they have a big role to ensure safety and health at work and that's why the researcher incorporated them in order to get details of their understanding and input in the OSH practices (Daima 2 respondents & New KCC 5 respondents).

3.5 Data Collection

The study involved collection of primary data using interviews, self-administered questionnaires and a formulated checklist that was used for observation during walk around the sites. A self-administered questionnaire was preferred by the researcher as the basic tool of primary data collection because in a short time, it has potential of reaching out to higher number of participants, gives respondents adequate time to respond, and offers confidentiality to respondents (Owens, 2002).

The researcher had developed a structured questionnaire using both close ended as well as open ended questions and a five-point Likert scale. The questionnaire was subdivided into five sections according to the study objectives except for the first two sections which were general i.e. Demographic Information, OSH awareness, Staff protection from OSH hazards, Staff Participation in OSH and Staff Training on OSH.

The researcher booked for appointments via phone calls then used the opportunity to carry out observation using a standard checklist and at the same time administered the questionnaires using drop and pick later method. All the respondents who participated filled the questionnaire (Daima 21 & New KCC 59). It was noted during data collection that some respondents did not understand English depending on their level of literacy where the researcher helped them. For interviews, the researcher first conducted site visits (observation's) and analyzed at least half of the questionnaires to get a grasp of the common issues highlighted by respondents in order to include their concerns during interview with relevant respondents. Direct Interviews were done for the senior managers, Human resource managers/representatives, safety and health officers, factory engineer's in charge and workers representatives at both sites. It was important for the staff interviewed to fill questionnaire to allow the researcher get the key people in OSH implementation views for comparison with other respondents. The observations and interviews data were used by the researcher to verify and reinforce the data obtained through the questionnaires as some staff may fear diverging some information due to fear of the unknown especially those considered confidential. For secondary data, the study depended on applicable articles, inspection reports, journals, website, acts or books as applicable.

3.6 Data Analysis

Data analysis is bringing meaning and order after mass collection (Mugenda and Mugenda, 2003). The study employed qualitative and quantitative data analysis methods. The quantitative data was analyzed using descriptive statistics where there was conversion into percentages according to frequencies, presented in tables and bar graphs then compared between New KCC and Daima. Qualitative data was organized/arranged into themes to allow comparison by the researcher to determine between Daima and New KCC, which dairy was doing better on the different aspects studied.

3.7 Data reliability and validity

Reliability is ability of research instrument to show consistency, dependability and stability e.g. when administered twice then you get matching results (Mugenda and Mugenda, 1999). The data collection instruments were tested for reliability by first conducting a pretest of the interview questions and questionnaire. Where questions were not understood, the researcher edited the questions in simpler English whereas concerns raised on repetitions of questions, they were combined. The observation checklist and interview questions were reviewed by the researcher after evaluating at least half of the questionnaire responses at both sites then including the concerns highlighted by respondents for verification purposes. All the research instruments were guided by the research objectives. Reliability was further ensured through respondent validation where the researcher issued the questionnaires, conducted interviews and observations at the site of study relied on supervisors to choose the respondents who participated in the study.

According to Mugenda and Mugenda (1999), validity can be related to accuracy and meaningfulness of interpretations. At the design stage, the researcher ensured validity of the study by selecting applicable research design (cross-sectional comparative case design), methodology, sampling and availing resources for the research. During data collection, validity was assured by using standardized data collection instruments for both sites and ensuring that all data collected was in line with the study objectives. Validity and credibility of the study findings was ensured through triangulation i.e. observations, questionnaire responses and interviews reinforced data triangulation where there was collection of primary data, secondary data and scholarly (literature review). Triangulation helped overcome bias brought about when single sources of

information/data are used. Validity was finally ensured by relying on experts in the field i.e. supervisor and lecturers in the department of Political Science and Public administration. All the instruments had a bearing on objectives of the study. The questions were formulated in simple English which was easy to understand. For those who did not understand, the researcher interpreted the questions while those who could not write, the researcher recorded their views as applicable coupled with observation and use of checklist.

3.8 Ethical considerations

Before commencement of data collection, the researcher requested for an authorization letter by the department of Political Science and Public Administration (University of Nairobi). The researcher also requested approval of the research topic by top management of New KCC Dandora Factory and Daima Dairy, precisely Human Resource department, before commencement of the study by assuring them on confidentiality as well. During the study, the researcher assured the respondents of confidentiality of the information provided in the course of the study which was not to be disclosed to the public. The respondents were informed that they would not be mentioned by their names in the final report to avoid the fear of action being taken against them. Participation was voluntary and respondents were free to continue or discontinue with study at their will (nobody was coerced). All the data collected was only used for academic purposes. The questionnaires used were anonymous.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter analyses, presents and interprets data collected with the aim of determining organizational factors that influence OSH practices at the New KCC, Dandora Factory and the Daima dairy. The chapter is divided into sub-sections which cover the respondents' response rate, demographic data, Occupation Safety and Health awareness, Staff protection from OSH hazards, Staff Participation and Staff Training in relation to OSH.

4.2 Response Rate

At the New KCC 60 questionnaires were distributed in hard copy and 59 were returned duly filled making a response rate of 98.3% while at Daima 25 questionnaires were distributed and 21 were returned when duly filled making a response rate of 85%. Though the researcher had targeted distributing more than 25 questionnaires, this was not possible due to the challenges posed by Covid-19, where Daima dairy activities had reduced and shifts had been adjusted to cope up with the reduced volumes of milk that were being processed. According Mugenda and Mugenda (1999), a response rate of 50% is adequate, 60% is good while 70% and above is excellent for analysis and reporting.

4.3 Demographic Data

It is very important to collect demographic data of respondents in order to understand in detail the composition of the sampled population which has a direct impact of OSH practices. The success of OSH programs depends largely on the demographic distribution of staff as they have different needs and expectations. Policy makers and human resource managers, require to know which populations distribution/composition is more at risk in terms of safety and health in order to address them appropriately.

4.3.1 Sex of the respondents

Table 4.1: Sex of respondents

	Male		Female		Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Daima	15	71.43	6	28.57	21	100
NEW KCC	45	76.27	14	23.73	59	100

Source: Author, 2020

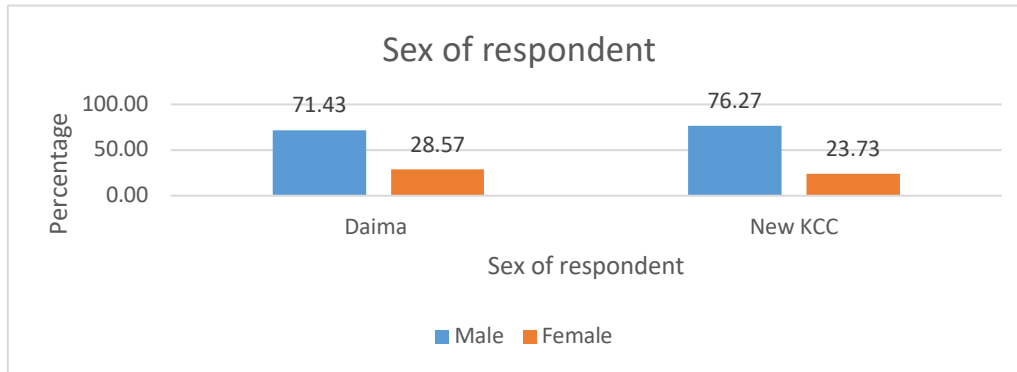


Figure 4.1: Sex of respondent (Source: Author, 2020)

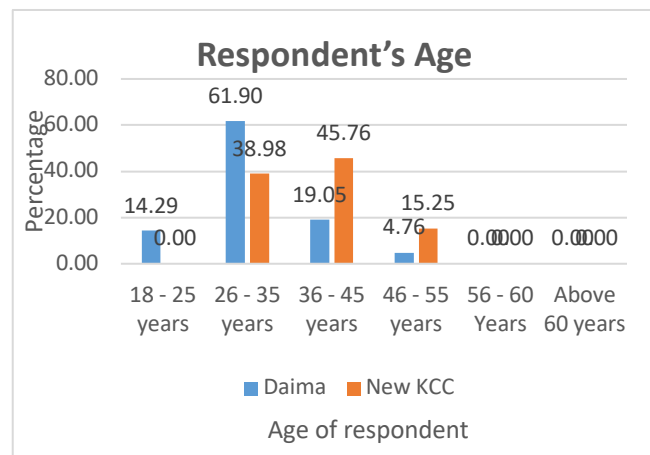
Sex of workers is important in OSH because the needs of the males and female genders are different e.g. when providing sanitary convenience, ladies require safe disposal of their sanitary pads while men require urinals. From the responses in Table 4.1 and Figure 4.1, the number of male respondents were higher at both Daima (71.3%) and New KCC (76.27%) while females were at 28.57 and 23.73% respectively. The explanation for the higher percentage of male than female could be attributed to nature of work undertaken in the two companies. During on site visit at both sites, it was noted, most engineering duties which include machine maintenance, repairs, operation (like steam boiler), working at heights and other activities in production floor like carrying finished products from production area to stores were duties done by men. Most female were observed at the production line arranging end products in crates or cartons, administration offices, drivers or at the lab. Consequently, with men being more than women, it was observed during onsite visit that their facilities which included change rooms, bathrooms, lockers, protective gear and washrooms among others were more than those of women in both organizations. This was also confirmed by the human resource respondents during interviews in both organizations.

4.3.2 Age of the respondent

The age of respondents was important in the study because the experience of respondents while at work is a determinant of probability of being involved in an OSH related accident/injury. According to a study by EU OSHA (2020) workers aged 18 – 24 years are involved in most OSH accidents/injuries/illnesses due to inexperience and lack of maturity physically and psychologically compared to older workers (<https://osha.europa.eu/en/themes/youngworkers>). At this age, most of the workers are fresh from college, with a lot of energy, curiosity where they end up overlooking work procedures while trying to use shortcuts as they are less experienced of safety & health matters. As per the study findings during interviews, it is the respondents older than 25 years with more experience on safety & health, that help them (18 – 24 years) work safety as they appreciate importance of OSH practices in the organization better (respondent, 2020).

Table 4.2: Respondent’s Age

Age (years)	Daima		NEW KCC	
	F	%	F	%
18 - 25	3	14.29	0	0.00
26 – 35	13	61.90	23	38.98
36 – 45	4	14.29	27	45.76
46 – 55	1	4.76	9	15.25
56 – 60	0	0.00	0	0.00
Above 60	0	0.00	0	0.00
Total	21	100	59	100



Source: Author, 2020

Figure 4.2: Respondent’s Age (Source: Author, 2020)

From the Table 4.2 and Figure 4.2, none of the respondents were aged 18 – 25 years at the New KCC while at Daima dairy this category constituted 14.29% which implied likelihood of accidents at Daima was slightly higher than at New KCC. At Daima’s most respondents were aged 26 – 35 years (61.90%) followed by 36 – 45 years (19.05%) then by 18 – 25 years (14.29%) and very few aged 46 – 55 years (4.76%). At New KCC the age bracket with the highest number of respondents were aged 36 – 45years (45.76%) followed closely by respondents aged 26 – 35 years (38.98%) and the rest were aged 46 – 55 years (15.25%). This shows in both organizations, most of the staff are middle aged persons who are mature and hence expected to be aware of the OSH risks. Both

organization had no respondent aged above 56 years – 60 years or above 60 years which is the age of retirement.

4.3.3 Level of education

The level of education has a direct impact of OSH practices because, at primary and secondary level, there are rarely trainings offered related to safety and health matters as compared to certificate, diploma and degree courses which are more workplace tailored. This translates to likelihood of more accidents. In case of trainings organized by Human resource departments on OSH, the primary and secondary level workers may not understand English well. This means unless, the trainers are well informed on the level of education of the workers, a training may be conducted and have no impact unless a language they understand is used. As such, it's important to know the level of education of staff for human resource managers to know where to start from.

Table 4.3: Level of Education

	Daima		New KCC	
	F	%	F	%
Primary	0	0.00	0	0.00
Secondary	5	23.81	8	13.56
Certificate	5	23.81	14	23.73
Diploma	6	28.57	16	27.12
Higher Diploma	1	4.76	4	6.78
Bachelors Degree	4	19.05	12	20.34
Post Graduate Diploma	0	0.00	2	3.39
Master's Degree	0	0.00	3	5.09
Total	21	100.00	59	100.00

Source: Author, 2020

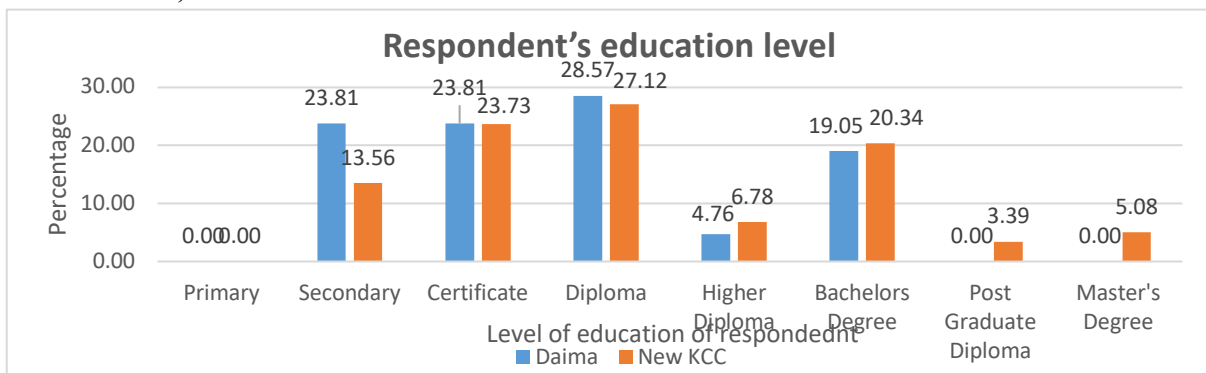


Figure 4.3: Level of education (Source: Author, 2020)

Respondents were asked to indicate their level of education as shown in Table 4.3 and Figure 4.3. From the study, it is clear that both organization's had the highest number of respondents being diploma holders with 28.57% at Daima and 27.12% at New KCC. This was followed closely by certificate holders at 23.81% and 23.73% then degree holders 19.05% and 20.34% at Daima and New KCC respectively. High level of education implies that the respondents are more prepared on training in OSH related issues such as accident prevention and use of new technology. There were a higher number of secondary school level at Daima (23.73%) than New KCC (13.56%) which translate to higher probability of OSH accidents/injuries/illnesses at Daima. None had respondents with only primary school level of education. It was also noted that New KCC had 5.08% master's holders and 3.39% Post graduate diploma level holders while Daima had none. The number of higher diploma levels at New KCC were slightly higher at 6.78% while Daima had 4.76%. This demonstrates that New KCC had employed most educated members of staff as compared to Daima and should therefore translate to less number of OSH related accidents/injuries/illnesses due to higher awareness in the course of training advancement. As per the literature review, once staff are aware of OSH they are able prevent hazards that may cause injury/accidents/illnesses (Armstrong, 2009).

4.3.4 Terms of employment

Table 4.4: Terms of employment

	Permanent		Contract		Total	
	F	%	F	%	F	%
Daima	1	4.76	20	95.24	21	100
New KCC	44	74.58	15	25.42	59	100

Source: Source: Author, 2020

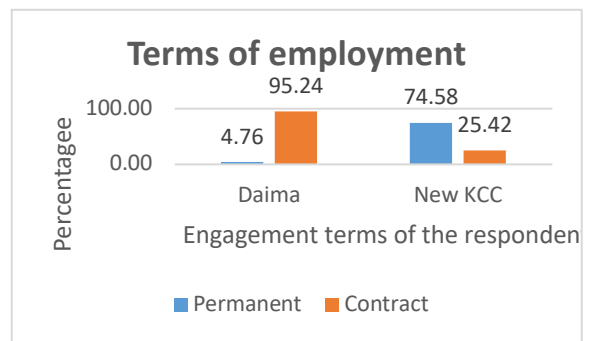


Figure 4.4: Terms of employment (Source: Author, 2020)

Employing staff on permanent and contract have a direct impact on OSH. According to the study findings, Table 4.4 and Figure 4.4. shows Daima relies heavily on members of staff employed on contract basis (95.24%) compared to New KCC at 74.58% permanent staff. This was further confirmed by the staff in the HR department during interview who said only 15% of personnel were employed directly by Daima dairy which included the sales and distribution department that did not participate in the study while the rest were engaged through Benori company (HR

(respondent, 2020). This has a bearing on the ages of employees which can be related to older respondents at New KCC as most employees prefer to work as permanent than contract due to the benefits related to security of tenure. It was also confirmed that members of staff at New KCC were allowed to join union through which they could air their views/grievances (HR respondent, 2020) including highlighting issues of health and safety at work in the Corrective Bargaining Agreement (CBA) which also covered other issues like PPEs provision (including tools for specific duties), working hours, compensation, weekly off days, overtime payment, sick offs, maternity leave, compassionate leave unlike at Daima where staff were no allowed to join union. Unionized workers fight for their rights without fear of losing their jobs and are safer at work than those on short term contracts. This was also reflected by unions leaders during interviews who always campaign for safer working conditions of their colleagues/members all the time (respondent, 2020). Safety at work plays a big part is staff satisfaction, productivity and loyalty which improve the general quality of life of the worker and community (WHO, 2002).

4.3.5 Position in the organization

Table 4.5: Respondent’s position in the organization

	Top Management		Middle Level Management		Supervisory		Junior Staff		General Hand		Total	
	F	%	F	%	F	%	F	%	F	%	F	%
Daima	0	0	2	9.52	9	42.86	5	23.81	5	23.81	21	100
New KCC	0	0	6	10.17	13	22.03	30	50.85	10	16.95	59	100

Source: Author, 2020

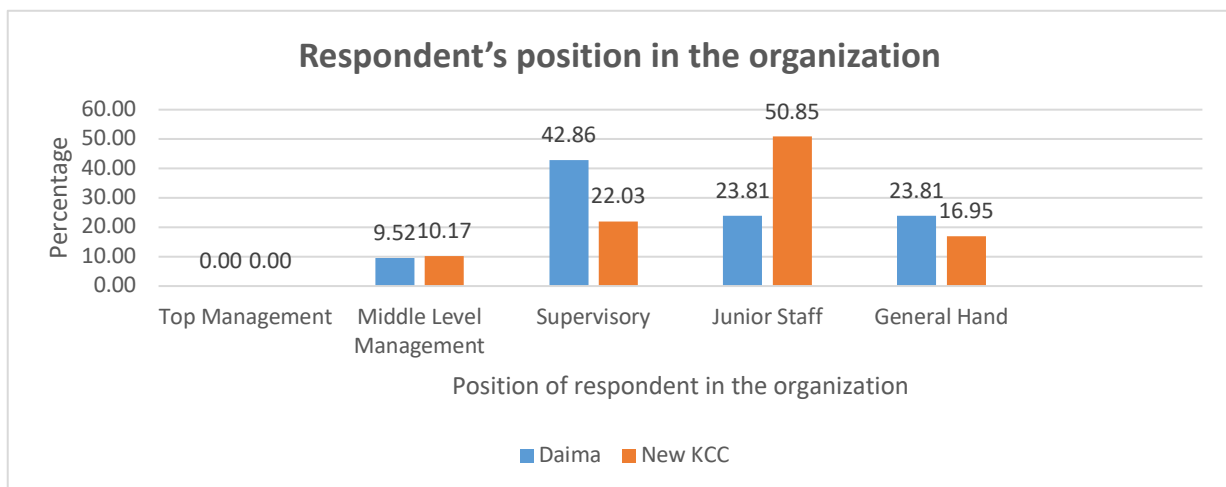


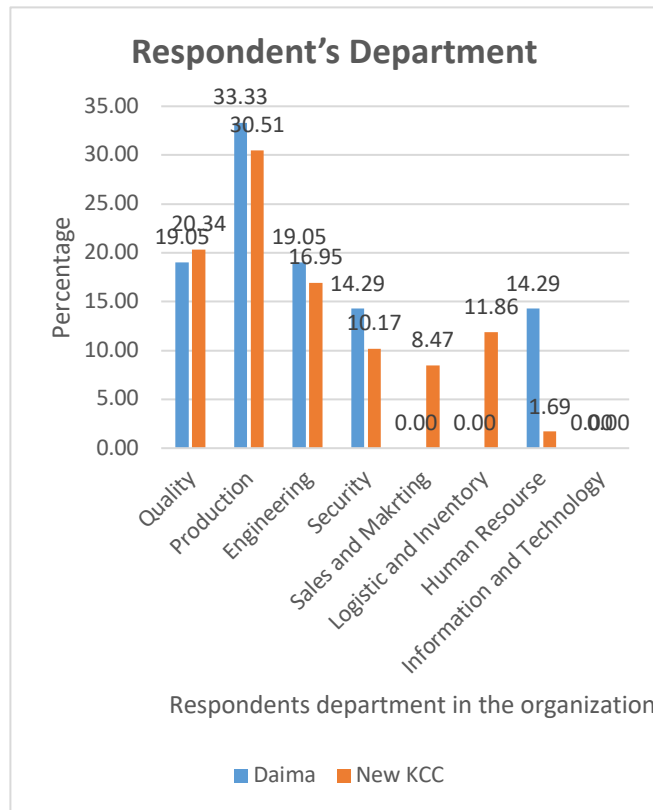
Figure 4.5: Respondent’s position in the organization (Source: Author, 2020)

The position of staff in the organization has a direct impact to OSH because there are different responsibilities for management and employees as outlined in OSHA 2007. Though bulk of the work of OSH lies on management, if they fail to take actions they also get involved in accidents and therefore there is need of cooperation by management and employees on safety and health matters. According to Table 4.5 and Figure 4.5, Daima had higher representation of management (middle level management 9.52% and supervisory 42.86%) making a total of 52.38% while the non-management staff (junior staff 23.81% and general hands at 23.81%) making a total of 47.62%. New KCC had higher non-management at 67.8% (junior staff 50.85% and general hand at 16.95%) while management was only 32.2% (Middle level management at 10.17% and supervisory at 22.03%). Having higher number of non-management staff has implication of getting much more details of the OSH related accidents/injuries/illnesses according to the literature review, where they are the most affected by OSH hazards and are the paramount origin of suggestions on the safety and health system (Dessler, 2008). Due to challenges brought about by COVID -19 which limited visitors and reduced number of staff present at the workplace (with most working from home) it was not possible to access the top management respondents at both organizations (this may have affected confirmation of the OSH policy issues however their representatives participated in the study questionnaire and interviews).

4.3.6 Department respondent's work

Table 4.6: Respondent's Department

	Daima		New KCC	
	F	%	F	%
Quality	4	19.05	12	20.34
Production	7	33.33	18	30.51
Engineering	4	19.05	10	16.95
Security	3	14.29	6	10.17
Sales and Makrting	0	0.00	5	8.47
Logistic and Inventory	0	0.00	7	11.86
Human Resourse	3	14.29	1	1.69
Information and Technology	0	0.00	0	0.00
Total	21	100	59	100.00



Source: Author, 2020

Figure 4.6: Respondent's Department (Source: Author, 2020)

The department where one works, has different probability of getting involved in an injury/accident/illness e.g. a person who works as receptionist in a factory environment, have lower probability of getting involved in a machine fault injury/accident as compared to a machine operator or a packer. As shown by Table 4.6 and Figure 4.6, the department with the highest representation was Production (33.33% & 30.51%), followed by Quality (19.05% & 20.34%) and Engineering (19.05% & 16.95%) at Daima and New KCC respectively. This was expected because in a milk processing set up, the biggest departments are always production (involved processing milk and packing) followed by quality department (involved in monitoring production chains) and engineering department (involved in machines corrective/preventive maintenance). As such, the three are the most affected by OSH issues. Both organizations had no representation from the ICT department however during site visit it was noted most of the participants had access to computer in the course of their work. At New KCC there were representation of sales and marketing department (8.47%) and logistics & inventory department (11.86%) while there were no representations of the two departments at Daima. On the other hand, Daima had a higher

representation from the HR department at 14.29% compared to 1.69% at New KCC which is the department responsible for ensuring safety and health of all staff at work. This had the advantage of capturing more details on OSH practices as compared to New KCC. While conducting interviews, it was noted Daima, had no safety and health officer at the time of research (duties not assigned anybody or an assistant safety and health officer appointed) which implied the staff had relaxed on OSH matters as there was no leader in sight (respondent, 2020). However, there was noted efforts to assign the officer in charge at Nakuru Plant to be serving both Nakuru and Nairobi plant (Respondents. 2020). At New KCC it was observed that the safety and Health officer in charge of all New KCC locations was on leave, however his assistant was available and participated in the study through interview and questionnaire (respondent, 2020).

4.3.7 Years respondent had served the organization

Table 4.7: Years respondent had served the organization

	1 Month - 2 years		3 - 5 years		6 - 10 years		11 - 15 years		16 - 20 years		Above 20 years		Total	
	F	%	F	%	F	%	F	%	F	%	F	%	F	%
Daima	3	14.29	11	52.38	4	19.05	0	0.00	3	14.29	0	0.00	21	100
New KCC	2	3.39	17	28.81	14	23.73	18	30.51	7	11.86	1	1.69	59	100

Source: Author, 2020

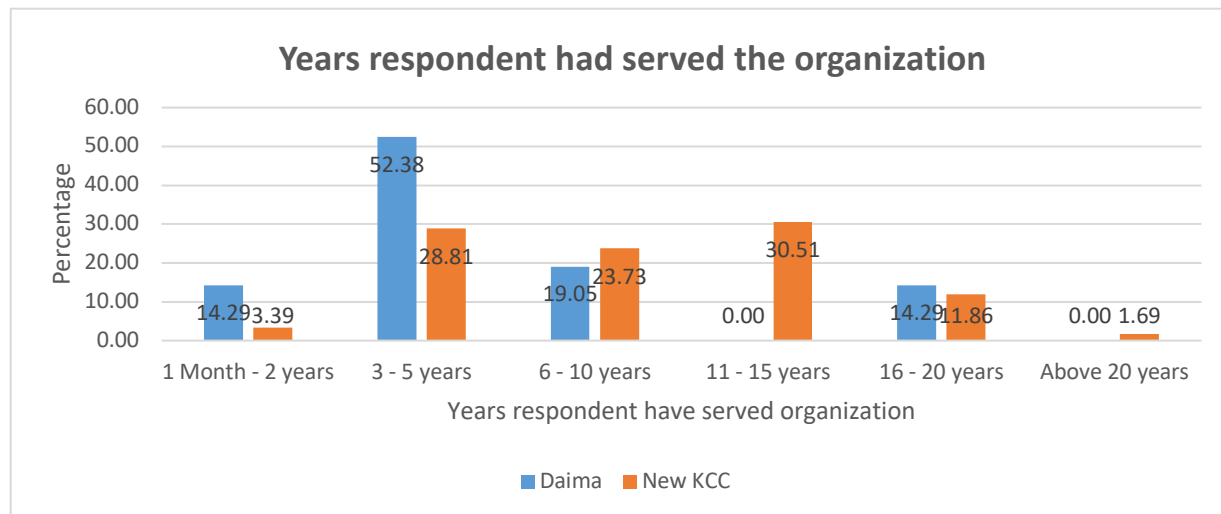


Figure 4.7: Years respondent had served the organization (Source: Author, 2020)

Years served in an organization has a direct relationship with age in OSH matters because as the two increases, the probability of getting involved in an injury/accidents decrease. Most accidents are reported among those who have worked in an organization up to 2 years. As per Table 4.7 and Figure 4.7, most of the respondents had served for a minimum of two years and a maximum of 20 years at both organizations which is a good representation of the people who have witnessed OSH injuries/accidents/illnesses and the aftermath. At Daima, the largest group of respondents had served 3 – 5 years (52.38%) followed by 6 – 10 years (19.05%), then 1 month – 2 years and finally 16 – 20 years (both at 14.29%) while New KCC had the highest serving for 11 -15 years (30.51%), followed by 6 – 10 years (23.73%), then 16 -20 years (11.85%), then 1 month – 2 years (3.39%) and lastly above 20 years (1.69%). This study showed most of the participants at New KCC had been working for longer compared to Daima. The longer an employee serves an organization, the more they get work experience/exposed, trained/aware on OSH matters and therefore safer at work. They are also likely to have witnessed or directly fallen victims of OSH related injuries/accidents/illnesses thus a good sample for the study.

4.4 Occupation Safety and Health awareness

To determine the extent of awareness of OSH issues the respondents were asked to indicate whether they had been involved or witnessed their colleague involved in OSH related accident injury or illness, the nature, possible causes of the injuries and whether there was compensation subsequently. As per the literature review, awareness on safety and health is very important for an effective Safety and Health program (Castella, 2002).

4.4.1 Respondent or colleague involved in an OSH related accident, injury or illness

The responses as to whether the respondent or colleague were involved in an accident/injury/accident related to work were shown in Table 4.8 and Figure 4.8.

Table 4.8: Rate of involvement of respondent or colleague in an accident/injury/illness

	Yes		No		Total	
	F	%	F	%	F	%
Daima	15	71.43	6	28.57	21	100
New KCC	43	72.88	16	27.12	59	100

Source: Author, 2020

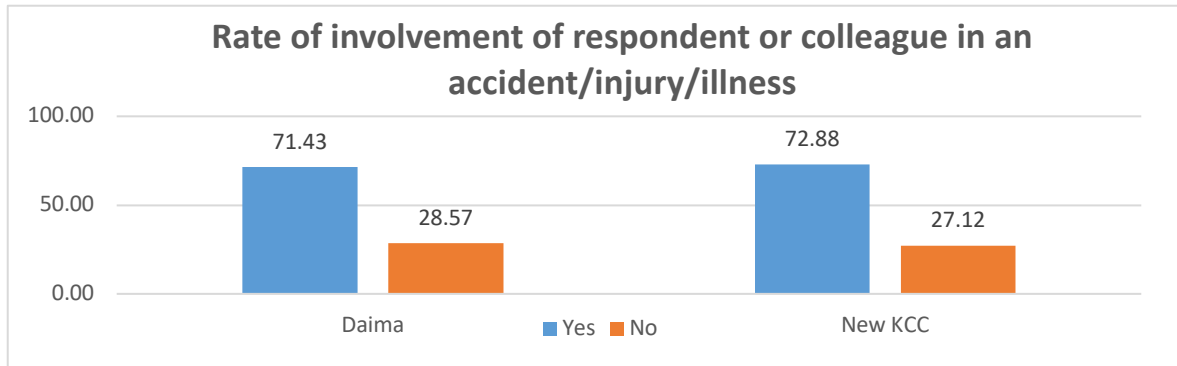


Figure 4.8: Rate of involvement of respondent or colleague in an accident, injury or illness (Source: Author, 2020)

Table 4.8 and Figure 4.8 show 72.88% of the respondents at New KCC and 71.43% at Daima had been involved or knew of a colleague who had been involved in OSH related accident's/injuries/illnesses. This is an indication of a high level of awareness in both organizations. Those who responded 'no' to the question, were mainly composed of management level staff which can be interpreted as management shying away from the truth as it's impossible for junior staff to witness or get involved in OSH related accident/injury/illness and management miss to know. During interviews, the respondents confirmed occurrence of injuries/accidents in both sites, while during onsite visit the researcher observed workers with scars on the hands and legs e.g. some machine operators had missing fingers as a result of work injuries/accidents.

4.4.2 Nature of the injury, accident or illness

Table 4.9: Nature of the injury/accident/illness

	Daima		New KCC	
	F	%	F	%
Musculoskeletal disorders	7	46.67	15	34.88
Work related cancers	1	6.67	0	0.00
Loss of hearing	1	6.67	5	11.63
Loss of sight	0	0.00	4	9.30
Skin diseases	0	0.00	2	4.65
Mental health disorders	0	0.00	1	2.33
Loss of part of the body	5	33.33	17	39.53
Stress disorder	0	0.00	3	6.98
Death	1	6.67	0	0.00

Source: Author, 2020

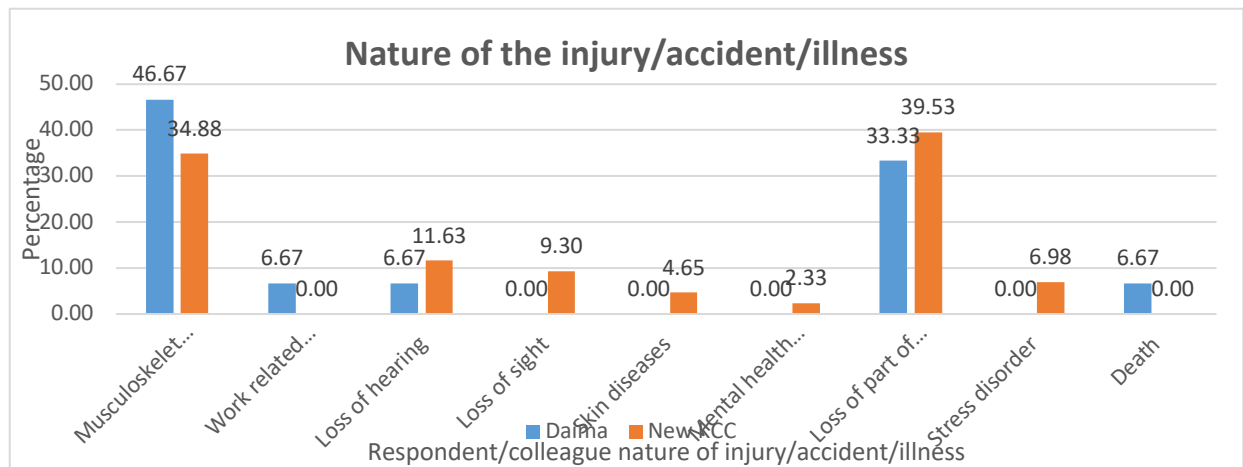


Figure 4.9: Nature of Injury/accident/illnesses (Source: Author, 2020)

As outlined in Figure 4.9 and Table 4.9, the highest nature of injury that the respondents were aware of was musculoskeletal disorders which was at 46.67% at Daima Dairy while at New KCC was 34.88%. As observed during site visit, this was most likely caused by working while standing for long at fresh milk packing section and sitting on stools that are not ergonomically friendly at the water packing section, as the stools had no place for resting the back. The second nature of injury was loss of body part with New KCC leading at 39.53% while at 33.33% at the Daima dairy. This could be attributed to the fact that in the recent past, at New KCC there was use of old machines which may have caused higher injuries than at Daima as confirmed during interview. A recent accident was where a supervisor at New KCC lost part his finger after getting entangled by a machine conveyor while repairing. Thirdly there was reported loss of hearing at both organizations (6.67% Daima and 11.63% at New KCC). The common nature of injuries highlighted at both sites during interviews were burns, lacerations, abrasions and crushing injuries which were associated with unguarded machinery.

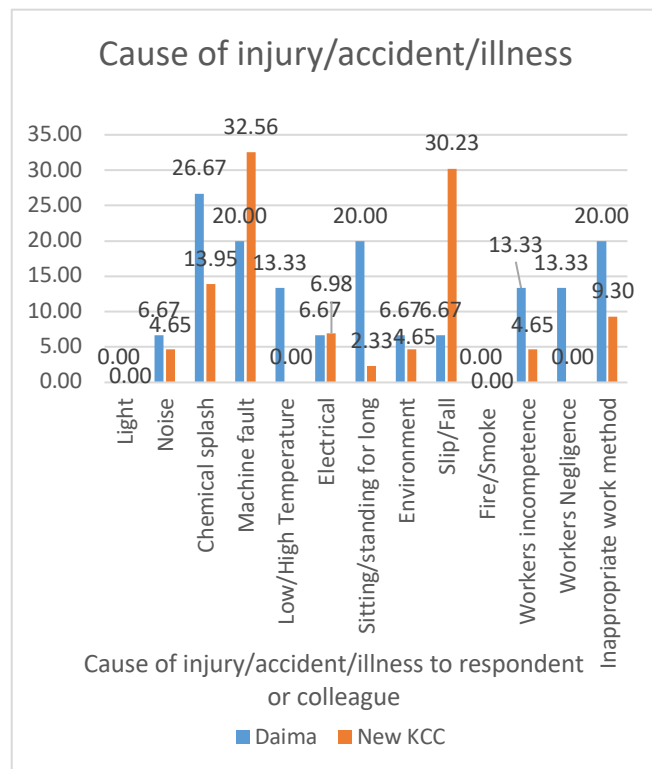
Daima had more severe nature of injuries 6.67% death and 6.67% work-related cancers while New KCC had none which can be associated with age of respondents where Daima had 18 – 24 years where as New KCC had none. On the other hand, New KCC had loss of sight (9.30%), skin diseases (4.65%), mental health disorders (2.33%) and stress disorders (6.98%) whereas Daima had none which can be associated with New KCC having respondents who had served for a longer period of time than at Daima thus it was expected they had witnessed more accidents/injuries/illnesses related to OSH.

4.4.3 Cause of the injury, accident or illness

From the literature review, there are many factors that may cause injury, accidents or illness in the organization. The respondents were provided a list from which they selected the factors that they thought had caused injury, accidents or illness. The responses are as shown in Table 4.10 and Figure 4.10. In comparison with section 4.4.2, the responses can relate musculoskeletal disorders to have resulted from standing/sitting for long (20% at Daima & 2.33% at New KCC), worker's negligence (13.33% at Daima & 0% New KCC) and inappropriate work methods (20% at Daima & 9.3% at New KCC) while the loss of body part most definitely resulted from machine faults (20% at Daima & 32.56%), chemical splash (26.67 at Daima & 13.95% at New KCC), workers' incompetence (13.33% at Daima & 4.65% at New KCC) and slips/falls (6.67% at Daima & 30.23% at New KCC) whereas loss of hearing can be associated with noise levels (6.67% at Daima and 4.65% at New KCC).

Table 4.10: Causes of injuries/accidents/illnesses

	Daima		New KCC	
	F	%	F	%
Light	0	0.00	0	0.00
Noise	1	6.67	2	4.65
Chemical splash	4	26.67	6	13.95
Machine fault	3	20.00	14	32.56
Low/High Temperature	2	13.33	0	0.00
Electrical	1	6.67	3	6.98
Sitting/standing for long	3	20.00	1	2.33
Environment	1	6.67	2	4.65
Slip/Fall	1	6.67	13	30.23
Fire/Smoke	0	0.00	0	0.00
Workers incompetence	2	13.33	2	4.65
Workers Negligence	2	13.33	0	0.00
Inappropriate work method	3	20.00	4	9.30



Source: Author, 2020

Figure 4.10: Causes of Injury / accidents / illnesses (Source: Author, 2020)

During interview, the key respondents highlighted the common accidents causes as sliding/falling, cuts/bruises by machines and injuries caused by loose doors. Table 4.10 and Figure 4.10 shows the machine fault cause, was higher at New KCC (32.56%) than at Daima (20%) which can be associated with age of machines where they were older at New KCC with some machines as old as 50 years however they were being faced out with ongoing modernization. This can also be associated with poor machine maintenance or ignorance of staff on proper working procedures. At Daima, the researcher observed that machines had standard operating procedures displayed next to control panel which were missing at New KCC and may have helped reduce machine fault causes. Chemical splash was at 13.95% at New KCC while at Daima it was almost double at 26.67%. This can be associated with staff working without appropriate PPE as observed during onsite visit. At Daima, chemical splashes were possible at Cleaning In Place (CIP) center and main laboratory where there were corrosive chemicals. The researcher observed that at Daima, there were no emergency showers, eye washes and hand wash station at the two CIP centers.

Noise, electrical faults and environment had similar scores of 6.67% at Daima while New KCC had 4.65%, 6.98% and 4.65% respectively. During onsite visit at Daima, it was noted that noise was recurring at the cold store which had been set such that when the door is left open within one minute, the alarm was turning on automatically therefore becoming a bother to those working close by. There were also high noise levels at the waste treatment plant whereas at New KCC, during onsite visit, high noise was noted from milk cans at reception and the milk separator. There were reported causes related to hot/cold temperatures at Daima (13.33%) which were missing New KCC. It was observed that some staff were not wearing PPEs while at the cold store at Daima especially when taking stock. In both organizations, the researcher observed that there were elaborate engineering departments with maintenance schedules under leadership of trained & experienced engineers whose implementation need to be streamlined.

The study shows there is a higher chance of slip/fall at New KCC (30.23%) than at Daima (6.67%). This can be associated mainly with work environment floors at New KCC where it was noted that most of the time, the floor was wet while at Daima the floor was maintained dry. There was also metallic ramp at the New KCC loading area which was slippery leading to fall/slip injuries as respondents reported. During interview, a respondent at New KCC confirmed that action had been taken after reported falls/slips to prevent further accidents. Measures put in place at both at new

KCC and Daima to manage slips/falls included raising awareness by use of caution signage and provision of good grip footwear as noted during onsite visit at new KCC and Daima.

None of the organization recorded a cause of injury related to light, fire or smoke which is a sign of proper management of the three causes. The researcher observed during onsite visit that there were labelled different kinds/types of fire extinguishers and hose reels strategically positioned without obstruction, which had been inspected annually as outlined in OSHA 2007, by approved personnel (certified by DOSHS). Staff were provided with PPE as the hazards exposed e.g. At New KCC, staff were found using protective shield while welding. Also at the interview a respondent confirmed there were also trained fire marshals on site.

According to OSHA employers are required to ensure ergonomics at workplace where workstations, work tasks and equipment fit employee comfort/capability so that they can work without any strain (OSHA 2007, section 76 (ii)). Causes related to standing/sitting for long were higher at Daima (20%) than at New KCC (2.67%) due to provision of ergonomically designed sitting facilities at New KCC and tea breaks at 10am and 4pm. It was observed there were no scheduled health breaks, no staff tea except management at Daima. There were also irregular shifts at Daima especially after onset of Corona Virus where production schedules were unpredictable leading to fatigue as compared to New KCC which had adopted three shifts for 24 hours. Other injuries reported, according to the interviews at both organizations, included vehicle accidents caused by careless driving, attack by thugs for security personnel, minor injuries caused by faulty still doors and pressure from work which was associated with stress.

4.4.4 Compensation for the OSH accident/injury victims

Table 4.11: Compensation for the OSH accident/injury victims

	Yes		No		Don't Know		Total	
	F	%	F	%	F	%	F	%
Daima	5	33.33	8	53.33	2	13.33	15	100
New KCC	17	39.53	21	48.84	5	11.63	43	100

Source: Author, 2020

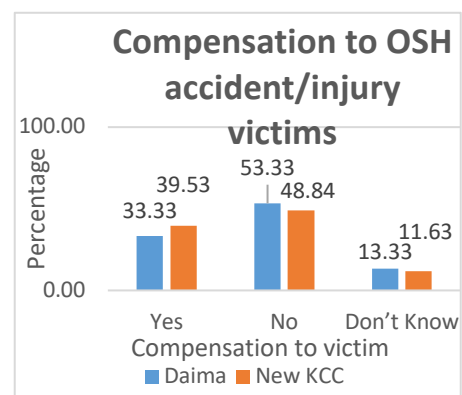


Figure 4.11: Compensation status of the victims (Source: Author, 2020)

During interview, both organizations confirmed that all staff were insured. When an accident occurs, it is categorized as per doctor's report then a claim form (as guided by DOSHS) is filled for compensation which was only done by the insurance after all documentations required are provided. Table 4.11 and Figure 4.11 shows that those not compensated after OSH related injury/accident comprised the highest percentage at 53.33% and 48.84% at Daima and New KCC respectively. Only 33.33% at Daima and 39.53% at New KCC were compensated which implies ineffectiveness by DOSHS in overseeing implementation of WIBA (2007). Reasons for non-payment include claim forms not properly filled or all documentations were not availed to process compensation. It was also noted that injuries caused by negligence of the workers are not usually paid. There were those who claimed that even after being approved to be compensated, the figure was reviewed downward. For instance, a member of staff had fallen from scaffold to the ground 15 years ago at New KCC, got injured and was to be compensated 50,000 shillings which was later reviewed to 5,000 by insurance but had not been paid at the time of research. Those who did not know whether compensation was done or not were 13.33% Daima and 11.63% at New KCC which shows lack of awareness.

4.4.5 Familiarity with OSHA 2007

During the onsite visit by the researcher it was noted that both sites had conspicuously displayed an abstract of OSHA 2007 and a safety and health policy statement. In order to establish the respondents level of familiarity with the OSHA 2007, respondents were asked questions in a Likert scale format whereby they were required to agree or disagree with statements highlighted as shown in Table 4.12.

Table 4.12: Occupation Safety and Health Act awareness

			Strongly Agree		Agree		Neither		Disagree		Strongly Disagree		Total	
			F	%	F	%	F	%	F	%	F	%	F	%
a)	I am familiar with Occupational Safety and Health Act of 2007	Daima	6	28.57	9	42.86	4	19.05	2	9.52	0	0.00	21	100
		New KCC	13	22.03	31	52.54	10	16.95	3	5.08	2	3.39	59	100
b)	I am familiar with the organization's occupational Safety and Health policy	Daima	7	33.33	12	57.14	1	4.76	1	4.76	0	0	21	100
		New KCC	21	35.59	28	47.46	6	10.17	4	6.78	0	0.00	59	100
c)	I know my rights and responsibilities regarding Safety and Health	Daima	16	76.19	4	19.05	0	0	1	4.76	0	0	21	100
		New KCC	24	40.68	24	40.68	9	15.25	2	3.39	0	0.00	59	100
d)	I know how to perform my job safely (which precautionary measures to take to protect myself at work)	Daima	15	71.43	6	28.57	0	0.00	0	0.00	0	0.00	21	100
		New KCC	32	54.24	26	44.07	1	1.69	0	0.00	0	0.00	59	100
e)	In case of an accident or a health related problem I am clear on who to report to	Daima	16	76.19	3	14.29	1	4.76	1	4.76	0	0	21	100
		New KCC	31	52.54	25	42.37	3	5.08	0	0.00	0	0.00	59	100
f)	My employer responds effectively to accidents	Daima	10	47.62	5	23.81	5	23.81	0	0.00	1	4.76	21	100
		New KCC	14	23.73	29	49.15	8	13.56	6	10.17	2	3.39	59	100
g)	Employees complaints regarding safety and health are handled promptly	Daima	8	38.10	8	38.10	3	14.29	1	4.76	1	4.76	21	100
		New KCC	6	10.17	28	47.46	14	23.73	9	15.25	2	3.39	59	100

Source: Author, 2020

4.4.5.1 Familiarity with OSHA 2007

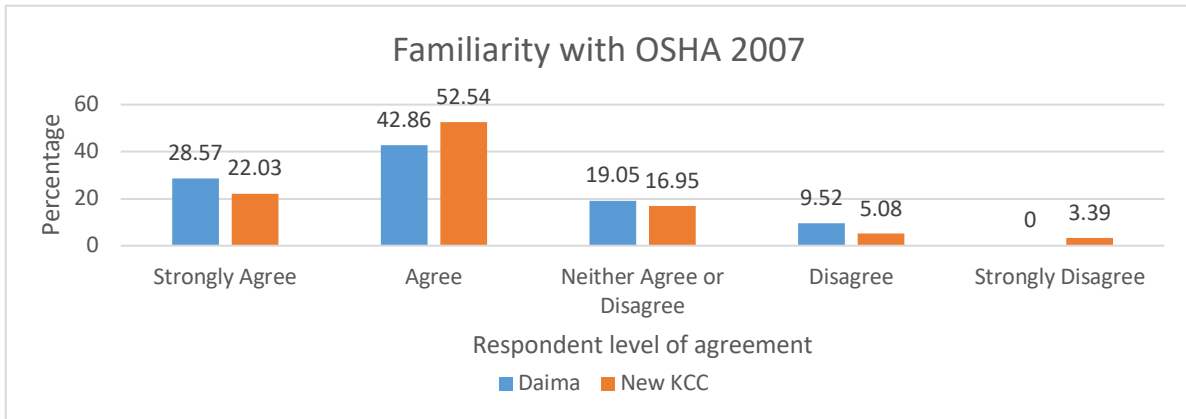


Figure 4.12: Familiarity with OSHA 2007 (Source: Author, 2020)

According to Figure 4.12, the level of familiarity with OSHA 2007 at New KCC was slightly higher at 74.57% who agreed that they were familiar with the OSHA 2007 (22.03% strongly agreed while 52.54% agreed) as compared to Daima which was at 71.43% (28.57% strongly agreed while 42.86% agreed). This is an indication that a high percentage of the respondents in both organizations are familiar with the existence of the OSH Act. Familiarity with the OSHA 2007 is important because both management and the employees have specific duties which are expected to ensure a safe and healthy work environment. To confirm the same, during interview, there was the OSHA 2007 in soft copy at New KCC and hard copy at Daima (respondent, 2020).

4.4.5.2 Familiarity with OSH policy

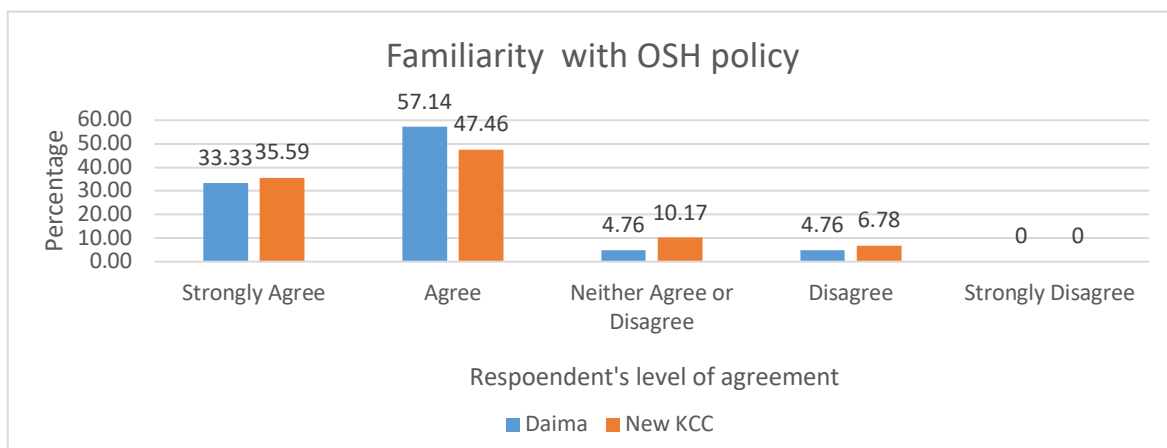


Figure 4.13: Familiarity with OSH policy (Source: Author, 2020)

The first sign of management commitment is coming up with health and safety policy (Armstrong 2009) which acts as guide to OSH programs which should be effectively communicated for implementation. Figure 4.13 shows there was a higher percentage of respondents who were familiar with OSH policy at Daima than New KCC i.e. 33.33% strongly agreed and 57.14% agreed making a total of 90.47% as compared to New KCC where 35.59% strongly agreed while 47.46% agreed making a total of 83.05%. The higher percentage of familiarity with OSH policy from Daima can be attributed to the high percentage of management staff who participated in the study as they are more involved in policy implementation unlike the junior staff who were more at New KCC. However, during the onsite visit, there was only one place where the policy was displayed at Daima (Entrance to administration offices) while at New KCC there were several noted i.e. at the notice boards at Factory managers Office, Engineers office, workshop and at the main entrance to the factory.

4.4.5.3 Knowledge of rights and responsibilities

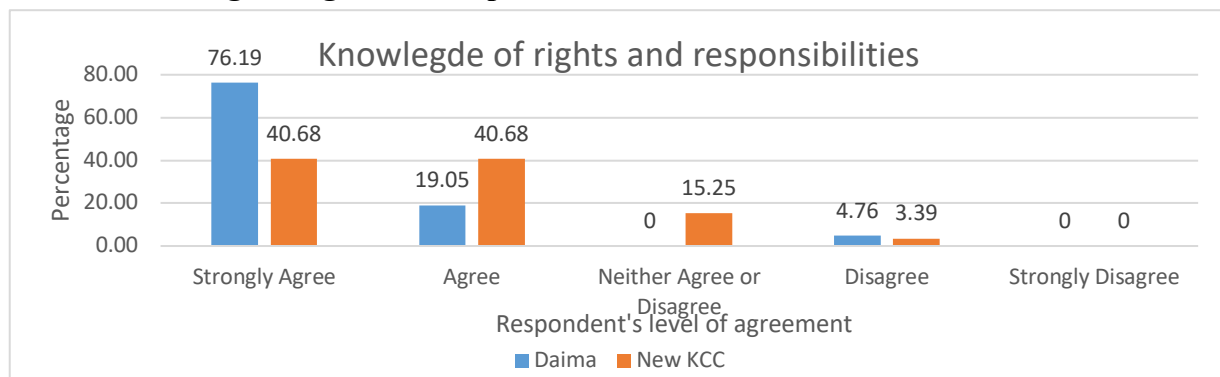


Figure 4.14: Knowledge of rights and responsibilities (Source: Author, 2020)

The OSHA 2007, clearly spells out the responsibilities of the government, the employer and employees. OSH can only be effective if each party is aware and undertakes their responsibilities. Figure 4.14 shows that a higher number of respondents were aware of their rights and responsibilities at Daima with 'strongly agree' at 76.19% and agreed at 19.05% making a total of 95.24% than at New KCC which had 40.68% with 'strongly agree' and 40.68% 'agreed' making a total of 81.36% which is a sign of effective communication and awareness of the rights and responsibilities.

4.4.5.4 Knowledge of performing Job Safely

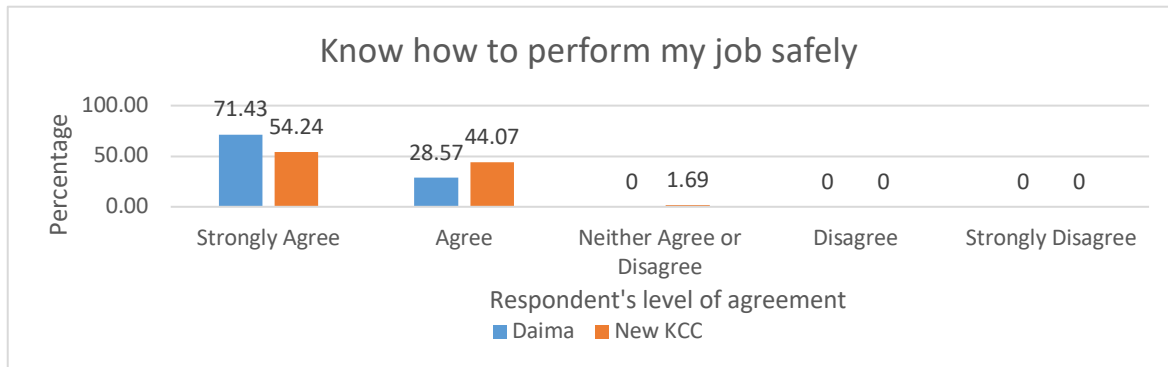


Figure 4.15: Knowledge of performing Job Safely (Source: Author, 2020)

According to Figure 4.15, all the respondents at Daima responded in the affirmative that they knew how to perform their job safely where 71.43% strongly agreed while 28.57% agreed making a total of 100% while New KCC had 54.24% who strongly agreed and 44.07% who agreed making a total of 98.31%. This implies the staff were aware of safety precautions to take while at work. Only 1.69% neither agreed or disagreed at New KCC who need to be trained on how to work safely. As per the literature review, it's an offence in the OSHA 2007 to fail to train operator(s) on safety measures if the machine is likely to cause bodily injury (section 99).

4.4.5.5 Clarity on who to report accident(s) to

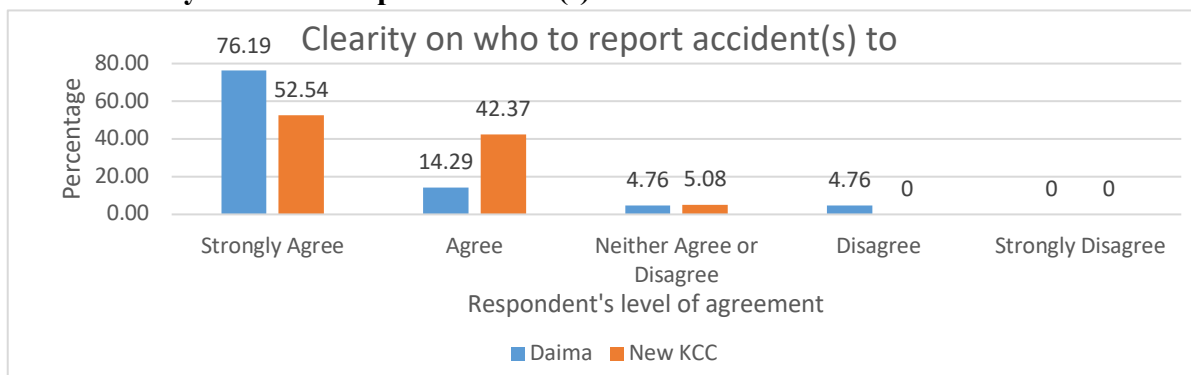


Figure 4.16: Clarity on who to report accident(s) to (Source: Author, 2020)

It's the duty of employees to report to the supervisor any situation which present a hazard (OSHA 2007 section 13 (e)) however, this can't be possible if it's not known who to report to. Figure 4.16 shows that at New KCC staff were more aware of who to report accident(s) to at 94.91% (strongly agree as 52.54% & agree was 42.37%) as compared to Daima which followed closely at 90.48%

(76.19% and agree as 14.29%). In both organizations it is clear that the staff are aware who issues of safety should be reported. It was noted in both organizations through interview that issues of injuries/illnesses/accident(s) were being reported to the supervisor in charge who facilitated first aid and transport to the hospital as need be.

4.4.5.6 Employer's response to accidents rating

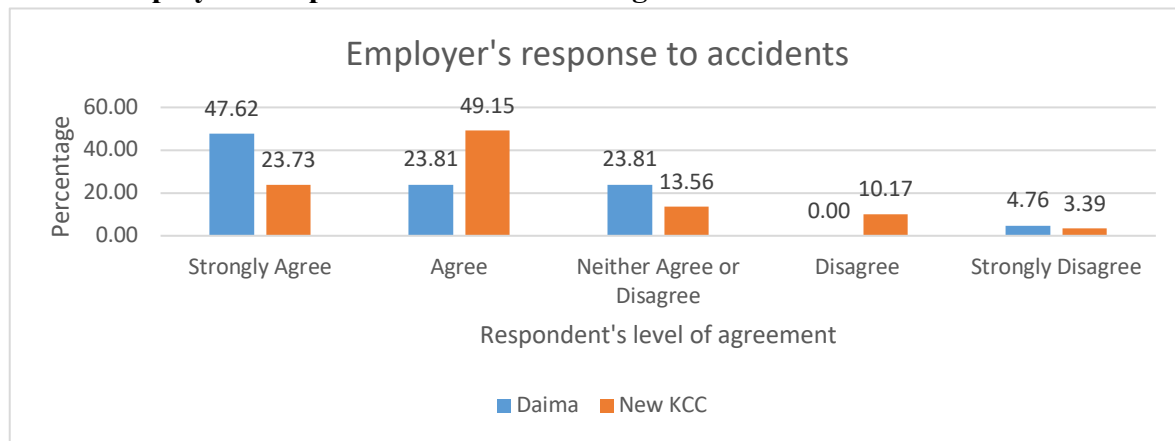


Figure 4.17: Employer's response to accidents rating (Source: Author, 2020)

Figure 4.17 shows that the respondents are confident that the employer responds effectively to accidents reported with Daima having strongly agree as 47.62% and agree at 23.81% making a total of 71.43% while New KCC strongly agree was at 23.73% and agree at 49.15% making a total of 72.88%. There is need of improving accident responses at both organizations to cover the views of 28.57% at Daima and 27.12% at New KCC who could not confirm employers respond to accidents. This shows management commitment to Occupation Safety and Health was high. As per the literature review, to create a safe, healthy and safety conscious workplace environment requires combined efforts by top management, supervisors and junior workers (Dessler, 2008).

4.4.5.7 Employee's complaint(s) handling by employer

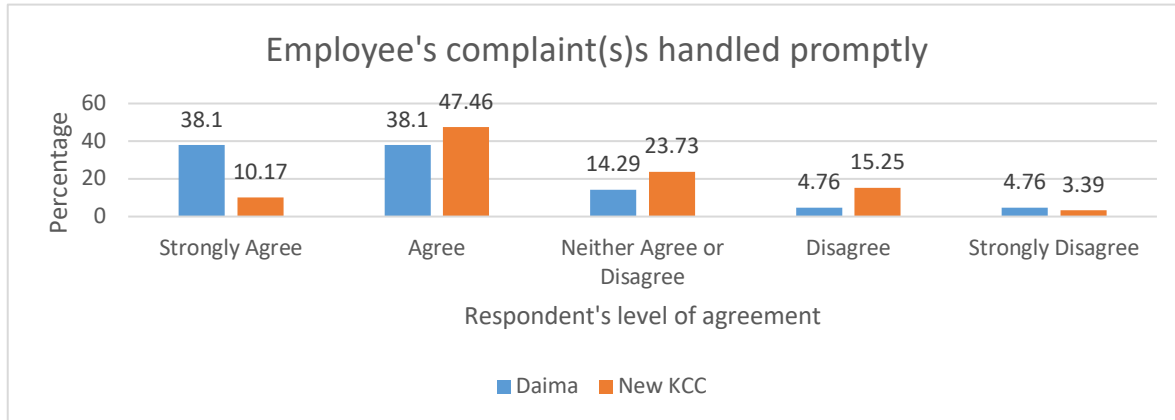


Figure 4.18: Employee's complaint(s) handling by employer (Source: Author, 2020)

As per the literature review, when the employer responds to the preferences and feedback from employees, they will feel being part of the process and change their attitude (Taylor, 2011). Figure 4.18 shows a better response to employee's complaints at Daima with agreement of 76.20% ('Strongly agree' and 'agree' at same rate of at 38.10%) than at New KCC at 57.63% ('Strongly agree' at 10.17% and 'agree' at 47.46%). This can be related to management commitment being better at Daima or a condition of employees fear of demanding their rights (better health and safety standards) for fear of losing their jobs and as a result, they accept everything done by management. At New KCC, the presence of union makes staff demand better safety and health standards thus their expectation is set a bit higher resulting to lower score.

4.5 Staff protection from Occupational Safety and Health hazards

As per literature review, protection from OSH hazards can be done by employing different techniques the most effective being hazard elimination where the hazard is removed from workplace, followed by substitution where there is use of something else less hazardous, then followed by engineering controls, then administrative or work practice controls and providing of appropriate PPE to protect the workers is the least effective (NIOSH, 2020).

During onsite visits, the measures put in place to protect staff included the five methods. Elimination of hazards was demonstrated by the workplace being fenced, secured and control access where there was screening of temperatures at the gates and hand sanitization before being

allowed access at both sites as per WHO guidelines measure to prevent spread of COVID 19 as the researcher observation. At the factory, the buildings were well maintained, stair cases were of sound construction and had hand rails. The machineries were fixed in position and were using advanced technology to avoid hazards that come with using machinery. Substitution was demonstrated by use of use of wet cleaning instead of sweeping to reduce dust. Engineering controls was evidenced by guarding as well as automation of machines i.e. hazardous parts like moving parts and sharp edges were shielded/guarded while hot pipes for steam distribution and cold pipes for chilled water distribution were insulated. On administrative or work practice controls it was demonstrated by staff rotation, carrying out fumigation when staff are few at work as well as maintenance of personal and environmental hygiene where there were receptacles at strategic places which were emptied regularly, floor designed in a way that water could flow freely to the drainages. Disposal of solid waste was an outsourced service at both sites while liquid waste was connected to the Municipal Council sewerage lines. Pests control being part of housekeeping, were well managed by outsourcing the services from competent service providers and as a result, no pests were observed at both sites. Where staircases were used, guardrails were provided. For hazards that could not be controlled there was use of PPEs like at the CIP center where lye and acids were used. Other control measures for hazards included labelling and controlled access at areas which had high risks of accidents like the lab, chemical store, CIP center and high voltage(rooms). There was use of signage to show gang ways, exit routes, emergency exits which were unobstructed, slippery floor, dangers sign (s), like high voltage areas, and no smoking signs at both sites.

The researcher observed during onsite visit that, OSHA 2007 requirements related to staff protection at both sites had been taken care of adequately i.e. adequate lighting, ventilation, emergency preparedness. There was provision for welfare needs like wholesome drinking water, change rooms, lockers, sanitary convenience which were separate for male and female. There were three assembly points at New KCC while the place Daima had the assembly point had been obstructed by ongoing activities at the time of research however staff were aware of where it was located. There were also electrical safety measures whereby generators and motors were secured, and machines electrical panels were fixed at accessible locations. There was practice of using lock out while maintaining energized systems and inspection of machinery to ensure safety, statutory inspection of steam boilers, air receivers, forklift and firefighting equipment as confirmed during

interviews. Safety of contractors and visitors was being ensured by guiding them and ensuring they are on protective gears as confirmed by key respondents. There was use of work permits for hazardous works which were being accessed for possible hazards then required protective gear provided at both sites after signing of the permits. On stress management, the two organization were offering counselling on need to need basis especially on work life balance. There was confirmation by staff interviewed that the OSH regulations are adequate to protect staff (prevent injuries/accidents/illness) however implementation was inadequate where DOSHS was scored 50% on overseeing implementation of OSHA & WIBA 2007 (key informants at Daima & New KCC, 2020).

In order to establish the respondents level of protection from OSH related hazards at the organization and implementation of requirements of OSHA 2007, in line with the first objective of the study, respondents were asked questions on safety measures in place and the responses were as shown in Tables 4.13, 4.14 and 4.15.

4.5.1 Respondent rating of safety measures put in place to protect workers

Table 4.13: Respondents rating of safety measures put in place by employer

	Very Poor		Poor		Average		Good		Very good		Excellent		Total	
	F	%	F	%	F	%	F	%	F	%	F	%	F	%
Daima	1	4.76	0	0.00	7	33.33	9	42.86	2	9.52	2	9.52	21	100
New KCC	2	3.39	3	5.08	17	28.81	26	44.07	10	16.95	1	1.69	59	100

Source: Author, 2020

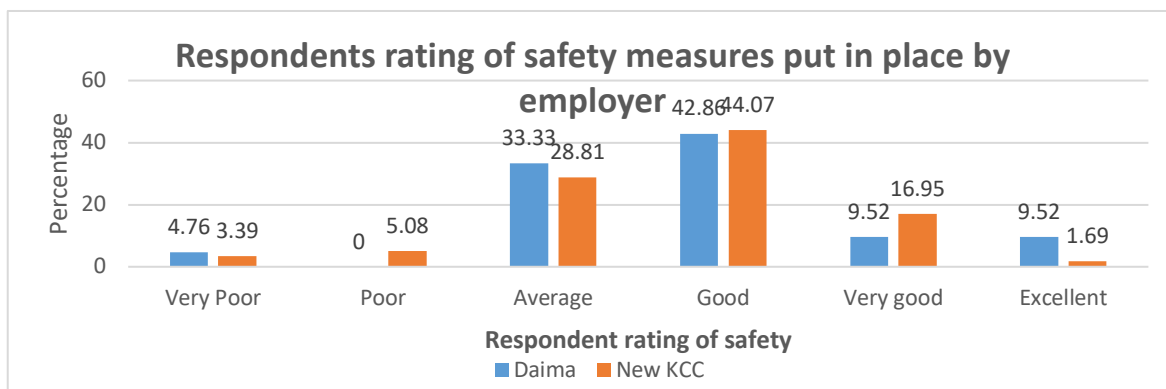


Figure 4.19 Safety at work ratings (Source: Author, 2020)

To gauge the staff perception on the level of worker protection, the respondents were asked to rate the safety measure put in place to protect the workers. Table 4.14 and Figure 4.21 show the

respondents scored 62.71% at New KCC and 61.9% at Daima i.e. good, very good and excellent combined. This implies that a majority, at both organizations, consider the measures put in place to be above average.

4.5.2 Provision of protective gear by the employer

Table 4.14: Rating of provision of protective gear workers require to be safe

	Yes		No		Total	
	F	%	F	%	F	%
Daima	18	85.71	3	14.29	21	100
New KCC	49	83.05	10	16.95	59	100

Source: Author, 2020

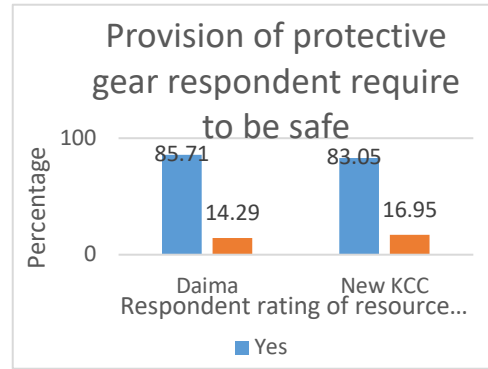


Figure 4.20: Rating of provision of protective gear required to be safe (Source: Author, 2020)

According to literature review, it's the responsibility of the employer to offer a safe environment for workers (Armstrong, 2009). Figure 4.22 shows the rating of protective gear provision at Daima was slightly higher than at New KCC i.e. 85.7% and 83.05% respectively, which shows that both organizations were committed on ensuring safety of their employees. Only a small percentage felt that the employer did not provide adequate protective gear (14.29% at Daima and 16.95% at New KCC). This group felt that the employers should provide more appropriate PPE especially gumboots, dust coats, ear muffs, safety boots, eskimo aprons, helmets, goggles and gloves. They pointed out that that PPEs are of poor quality, are inappropriate and when worn out are rarely replaced. This is contrary to the requirements of an effective PPE program (Taylor, 2011).

4.5.3 Impact of protective gear on OSH practices

The respondents in both organizations were of the view that PPEs: motivates staff to work without safety threats/fears, minimize/reduce chances of injuries/accidents, reduce worker's exposure/contact with hazardous materials, improves efficiency/confidence while working and for staff at production/quality departments, the protective gears were important as also served as indicators of cleanliness (white colour like gumboots).

4.5.4 Reasons Staff do not Wear Personal Protective Equipment already provided

The respondents at New KCC and Daima highlighted the common reasons for not wearing provided PPEs as: ineffective supervision where there is no strict implementation of safety rules, lack of management cooperation when senior managers fail to wear PPE to set a good example, where the worker has a health related issues like an injury/wound on part of body preventing wearing gumboots/safety boots, swollen limbs, allergy like with latex gloves, when the PPE is worn out/old/torn thus PPE becomes a hazard, negligence/ignorance by staff, some staff in an effort to save time were preferring to work without PPEs which consume time to wear like overalls and aprons or believing that PPE reduce working speed, lack of know how/awareness/sensitization on working environment/safety concerns/importance of PPE while working, provision of poor quality PPEs that staff view as inadequate to protect them and feeling uncomfortable while wearing PPEs due to the working environment. Some respondents were of the view that they were forced to share PPE when working and therefore found it risky like googles/gas masks/aprons/gloves when handling corrosive chemicals or when painting/welding thus avoid intentionally for health reasons. Some of the reasons raised were similar to those raised by Wanjiku (2017).

4.5.5 Staff perception on protection status from OSH hazards

In order to establish whether staff protection was ensured by both organizations, respondents were asked questions in a Likert scale format where they were required to agree or disagree with statements highlighted as shown in the Table 4.15

Table 4.15 Staff perception on protection status from OSH hazards

			Strongly Agree		Agree		Neither		Disagree		Strongly Disagree		Total		
			F	%	F	%	F	%	F	%	F	%	F	%	
a)	Safety and Health at my workplace is considered as crucial to the success of the organization	Daima	12	57.14	5	23.81	3	14.29	1	4.76	0	0.00	2	1	100
		New KCC	26	44.07	26	44.07	5	8.47	1	1.69	1	1.69	5	9	100
b)	Safety in working area has been ensured through proper ergonomics	Daima	5	23.81	9	42.86	4	19.05	1	4.76	2	9.52	2	1	100
		New KCC	15	25.42	33	55.93	7	11.86	3	5.08	1	1.69	5	9	100
c)	Where there are hazards supervisors implement job rotation.	Daima	5	23.81	10	47.62	4	19.05	1	4.76	1	4.76	2	1	100
		New KCC	8	13.56	30	50.85	8	13.56	1	20.34	1	1.69	5	9	100
d)	There is maintenance of personal hygiene and clean work environment	Daima	12	57.14	6	28.57	2	9.52	1	4.76	0	0.00	2	1	100
		New KCC	28	47.46	26	44.07	3	5.08	1	1.69	1	1.69	5	9	100
e)	My job allows for adequate health breaks.	Daima	4	19.05	10	47.62	6	28.57	1	4.76	0	0.00	2	1	100
		New KCC	12	20.34	23	38.98	1	27.12	6	10.17	2	3.39	5	9	100
f)	The organization is well prepared to handle medical emergencies	Daima	10	47.62	7	33.33	2	9.52	2	9.52	0	0.00	2	1	100
		New KCC	18	30.51	29	49.15	8	13.56	2	3.39	2	3.39	5	9	100
g)	Medical examinations are carried out regularly	Daima	7	33.33	9	42.86	2	9.52	2	9.52	1	4.76	2	1	100
		New KCC	12	20.34	29	49.15	7	11.86	8	13.56	3	5.08	5	9	100
h)	There are annual fire drills to test emergency preparedness at my workplace	Daima	8	38.1	3	14.29	3	14.29	5	23.81	2	9.52	2	1	100
		New KCC	11	18.64	17	28.81	1	28.81	1	18.64	3	5.08	5	9	100
i)	The organization provides basic workplace amenities as required by law	Daima	14	66.67	5	23.81	2	9.52	0	0.00	0	0.00	2	1	100
		New KCC	34	57.63	24	40.68	1	1.69	0	0.00	0	0.00	5	9	100

Source: Author, 2020

4.5.5.1 Rating of whether safety and health is considered crucial

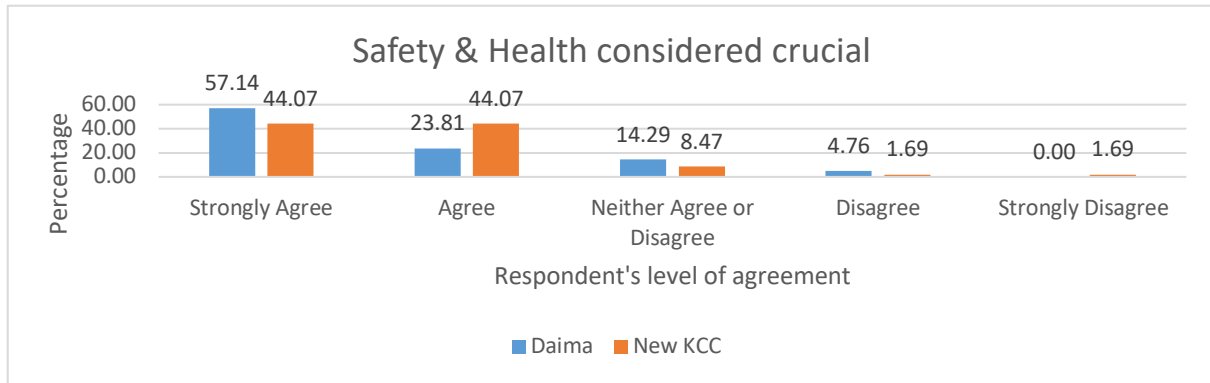


Figure 4.21 Rating of whether safety and health is considered crucial (Source: Author, 2020)

This question was intended to get details on seriousness of protecting staff from OSH hazards. Figure 4.20 shows that there was a higher rating in agreement that safety and health is considered crucial to the success of the organization i.e. New KCC with slightly higher rating of 88.14% while Daima was at 80.95%. Top management commitment was noted through interview and observation to be better at New KCC in terms of ensuring that there was a Health and Safety Officer (leader), who had an assistant and was well facilitated while Daima had none. In both sites, the OSH committee was chaired by the senior managers. The Human Resource department was the one in charge of facilitating safety and health audits, environmental audits, fire safety audits and noise level audits as per key respondents. At New KCC Dandora Factory, the safety and health committee was noted to be active with minutes available for previous meetings between 2007 – 2020, and there was evidence of actions points taken as discussed in the meetings including self-audits reports recommendations. The same could not be verified at Daima as minutes and inspection reports were not available however the Human Resource representative confirmed that the safety & health committee was active, minutes and inspection reports were available but were considered confidential. According to the literature review, in order to create a safe, healthy and safety conscious workplace environment requires combined efforts by top management, supervisors and junior workers (Dessler, 2008) which was noted at both New KCC Dandora Factory and Daima dairy.

4.5.5.2 Rating of safety in regard to ergonomics

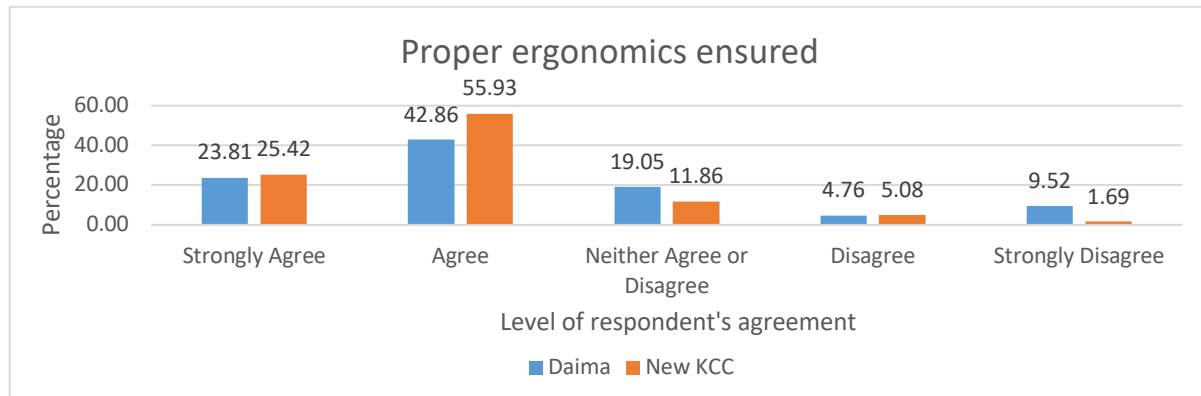


Figure 4.22: Rating of safety in regard to ergonomics (Source: Author, 2020)

Ergonomics is part of engineering control method of protecting staff. As per the literature review, section 76 and 94 of OSHA 2007 require the employer to ensure provision of ergonomics at the workplace and facilities for sitting respectively. Figure 4.21 shows that the rating on ergonomics were higher at New KCC 81.35% than Daima at 66.67% which was also observed during site visit. For instance, at Daima, some members of staff working at fresh milk section were working while standing during onsite visit. When asked whether they needed sitting facilities, they confirmed that provision of the same would make their work easier. For those working at the water filling section, they were sitting on stools without back resting allowance however at the offices there were ergonomically designed work stations. At New KCC, there were ergonomically designed seats with leg and back rest positions provided at the milk packing/processing section and the lab. For those respondents at New KCC who did not agree with comfortable sitting facilities, they were most probably those at the distribution section i.e. security, processing section and returns section as their seats were fairly worn out. During site visit, it was noted that there were comfortable seating facilities at the administration offices, reception, quality laboratory, engineering and productions offices in both organizations. Those who were working with computers had well positioned seats and furniture for ease of working.

4.5.5.3 Job rotation at hazardous work environments

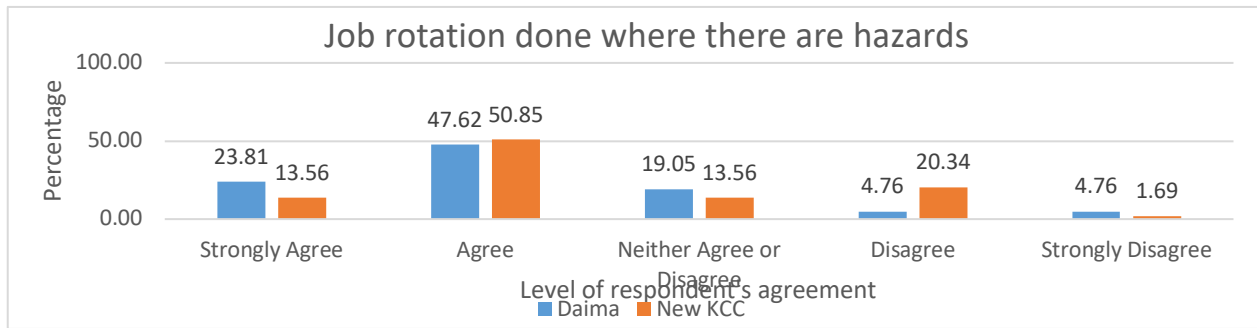


Figure 4.23: Job rotation at hazardous work environments (Source: Author, 2020)

Job rotation is one of the work practice or administrative controls, which should be done in hazardous work environments like noisy areas (CCOHS, 2020). According to the literature review, Job rotation has been associated with enhanced skills, increased motivation, reduction of exposure to risk hazards to staff especially in repetitive tasks and improved productivity (Bennet, 2003). This has a benefit of reducing stress, absenteeism, turnover and fatigue as well among the workers. According to Figure 4.23, the number of staff in agreement that there is job rotation were high affirming that it was being practiced i.e. Daima slightly higher at 71.43% (Strongly agree 23.81 and agree 47.62%) while New KCC at 64.41% (Strongly agree 13.56% and agree 50.85%). There was a higher number of respondents who disagreed with job rotation at New KCC 22.03% (disagree 20.34% and strongly disagree 1.69%) as compared to Daima 9.52% (strongly disagree and disagree at 4.76% each). This shows job rotation being better done at Daima than at New KCC.

4.5.5.4. Maintenance of personal hygiene and clean work environment

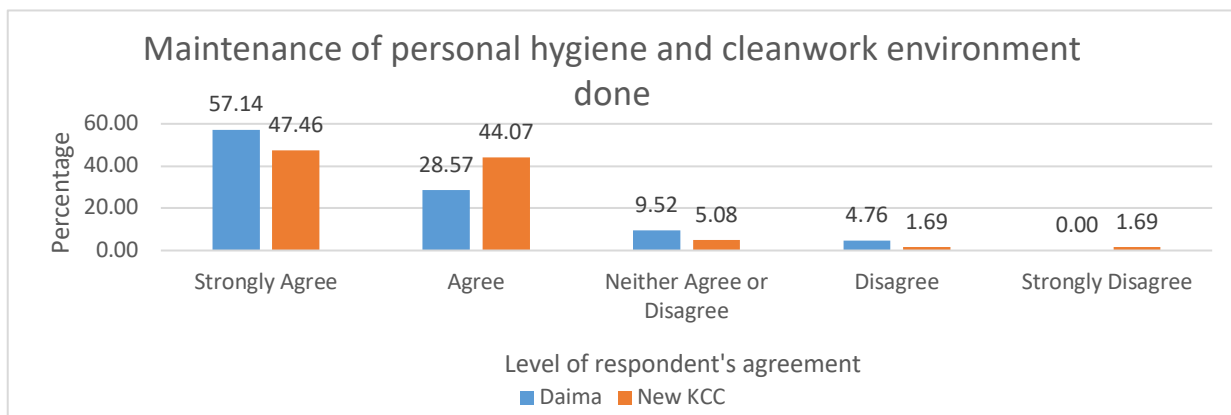


Figure 4.24: Maintenance of personal hygiene and clean work environment (Source: Author, 2020)

According to literature review, maintenance of hygiene and proper housekeeping was among the work practice or administrative controls (CCOHS, 2020). Figure 4.23 shows a higher percentage of respondents are in agreement that there is maintenance of personal hygiene and clean work environment in both organizations i.e. New KCC slightly higher at 91.53% (strongly agree 47.46% and agree 44.07%) while Daima at 85.71% (Strongly agree 57.14% and agree at 28.57%). Both organizations rated strongly agree higher than agree. Through observation during onsite visit, the researcher was able to confirm that New KCC was maintaining personal hygiene and clean work environment a bit better than Daima where apart from ensuring the production environment was clean, there was provision of laundry facilities at New KCC which was not provided at Daima. All members of staff had their uniforms cleaned and ironed at New KCC by staff assigned that role.

4.5.5.5 Job allows for adequate health breaks

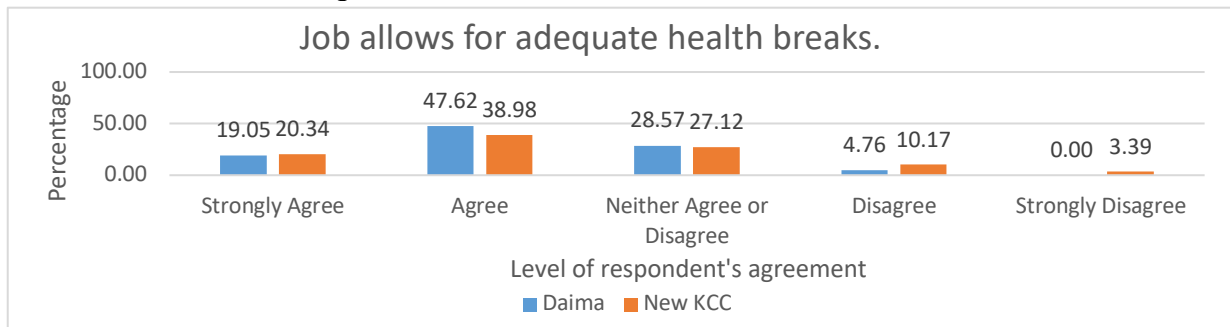


Figure 4.25: Job allows for adequate health breaks (Source: Author, 2020)

Health breaks are part of work practice or administrative controls. Figure 4.25 shows there are adequate health breaks as confirmed by respondents i.e. Daima scored slightly better at 66.67% (Strongly agree 19.05% and agree at 47.62%) than New KCC at 59.32% (Strongly agree 20.34% and agree at 38.98%). The disagreement that there are adequate health breaks at New KCC was rated higher at 13.39% (disagree 10.17% and strongly disagree 3.39%) while Daima had only 4.76% who disagreed and no one strongly disagreed. There were lunch breaks which were planned by supervisors in charge according to key respondents. However, it was noted at New KCC there were more health breaks than at Daima where staff were allowed to take tea at 10am and 4pm during which machines were stopped for at least 30 minutes. There was also some staff who had mentioned that the shifts at Daima were longer than 8 hours especially after the onset of COVID 19. However, it was noted that those who work at New KCC on night shift were straining 16 hours or more, fortunately not reporting on consecutive days as they work for two shifts each 8 hours

therefore getting enough rest. Some staff were however preferring to work longer due to the financial benefits which was paid as overtime.

4.5.5.6 Organization preparedness to handle emergencies

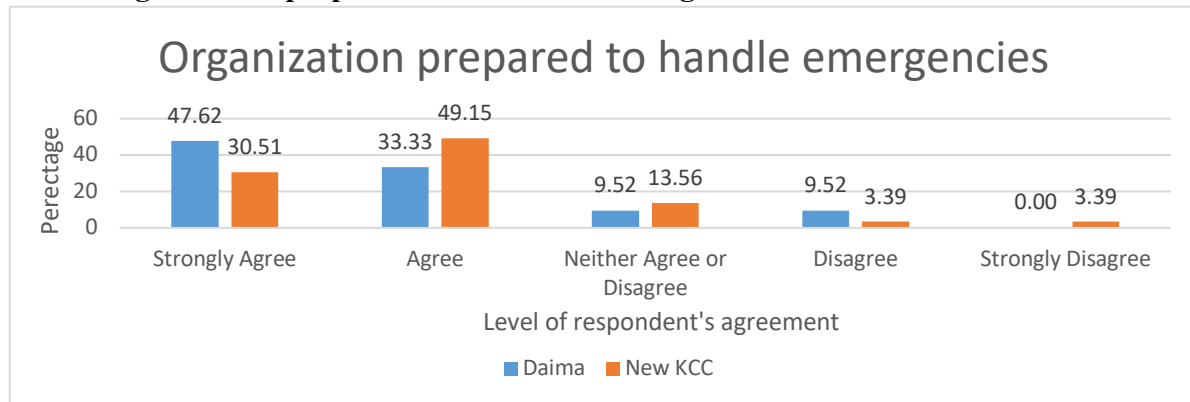


Figure 4.26: Organization is prepared to handle emergencies (Source: Author, 2020)

Organization preparedness to handle emergencies are part of engineering controls. According to the literature review, section 77, 78, 79, 80, 81, 82 and 95 of OSHA 2007 require the employer to ensure provision of safe means of access and safe place of employment, fire prevention, precautions in places where dangerous fumes are likely, precautions with respect to explosive or inflammable dust or gas, safety provisions in case of fire, evacuation procedures and First Aid facilities respectively. Figure 4.26, shows affirmation that both organizations were prepared to handle emergencies i.e. Daima recorded 80.95% (Strongly agree 47.62% and agree 33.33%) and New KCC at 79.15% (strongly agree 30.51% and agree 49.15%). This was confirmed through observations where there were marked exit routes, inspected fire extinguishers, forklifts and inspected pressure vessels as required by OSHA 2007 section 67 and 68. Those who disagreed were higher at Daima (9.52%) than New KCC (3.39 %). The low rating on emergency preparedness at Daima may be attributed to lack of a clearly labelled fire assembly point, lack of adequate first aid services and unrefilled fire extinguishers. At New KCC, the disagreement can be related to some emergencies door that were obstructed and used fire extinguishers that had not been refilled at the time of research.

4.5.5.7 Regularity of carrying out medical examinations

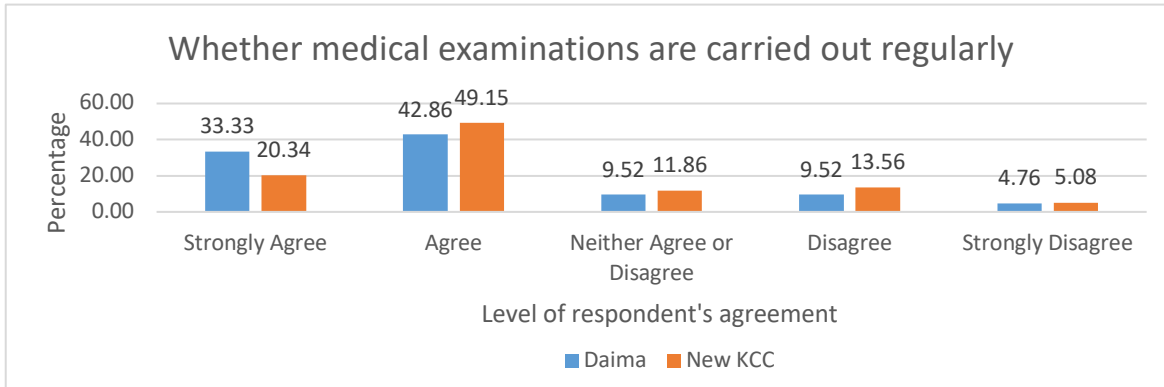


Figure 4.27: Whether medical examinations are carried out regularly (Source: Author, 2020)

According to the literature review, it is important for organizations to ensure medical examinations are done as required by law at the cost of the employer i.e. during appointment, while working and when exiting working at any organization (OSHA 2007 section 103(3)). Figure 4.27, shows that a higher number of respondents agreed that medical examinations are carried out regularly i.e. Daima slightly higher at 76.19% (strongly agree 33.33% and agree 42.85%) while at New KCC 69.49% (strongly agree 20.34%% and agree 49.15%). Occupational medical examinations are important especially in organizations where staff are exposed to health and safety risks, including dairy industries, in order to determine whether there are effects on the health of member’s staff resulting from the working condition.

4.5.5.8 Availability of annual fire drills

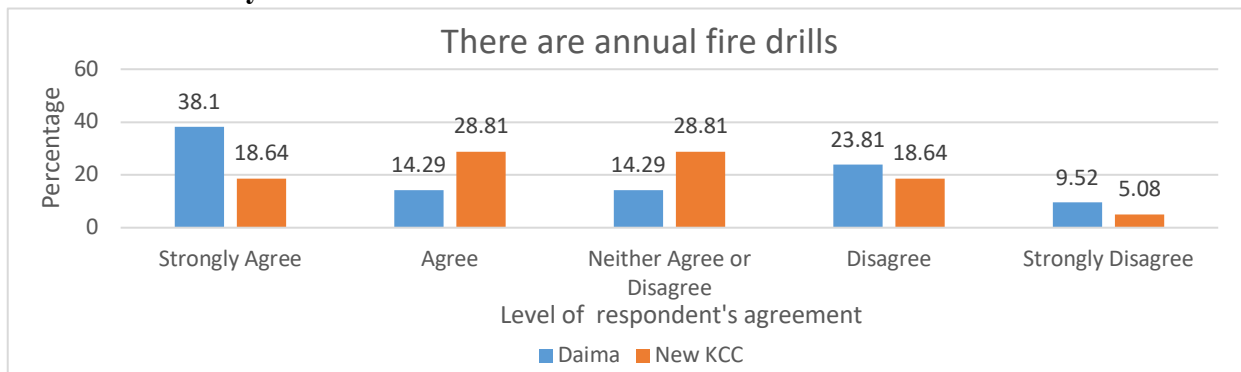


Figure 4.28: Availability of annual fire drills (Source: Author, 2020)

According to the literature review, there should be planned fire drills and other methods of creating awareness on safety and health at the workplaces (OSHA 2007 section 81 and 82). Figure 4.27,

shows that Daima had a higher confirmation that fire drills are done 52.39% (Strongly agree 38.1% and agree 14.29%) while New KCC had 47.45% (Strongly agree 18.64% and agree 28.81%). However, it was also noted that Daima respondents also disagreed at 33.33% (disagree 23.81% and strongly disagree at 5.08%) than New KCC respondents 23.72% (disagree 18.64% and strongly disagree at 9.52%). This shows that both organizations had not taken fire drills seriously and as a result the respondents could not agree unanimously. This raises concern to both organizations to ensure they carry out fire drill in order to ensure the staff are aware on actions to take during fire emergencies. Drills should be done regularly to strengthen staff on emergencies preparedness. There were no records provided by both organizations on fire drills conducted however there were evidences of training on fire safety i.e. training certificates.

4.5.5.9. Provision of basic workplace amenities

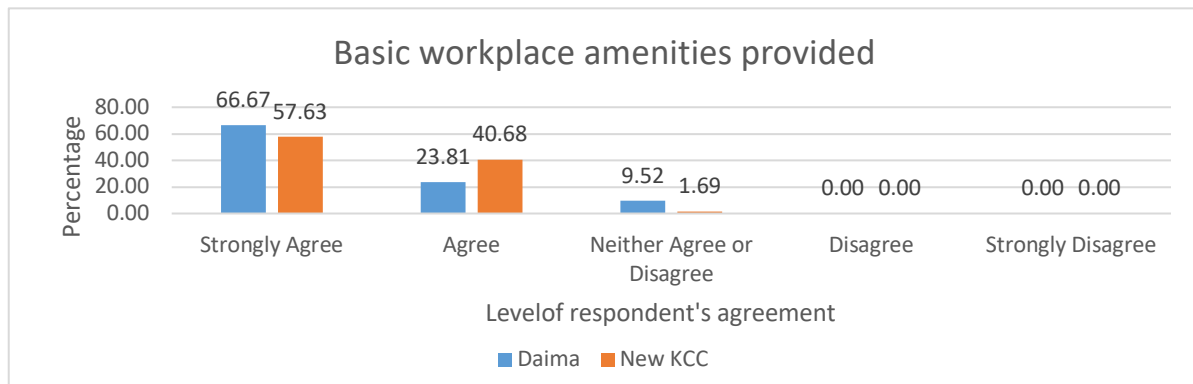


Figure 4.29: Provision of basic workplace amenities (Source: Author, 2020)

According to OSHA 2007 section 91 to 93, the employer is required to ensure provision of welfare facilities for workers including supply of drinking water, washing facilities and accommodation for clothing. Figure 4.29 shows that New KCC was doing much better in provision of basic amenities as required by OSHA 2007 at 98.31% (strongly agree at 53.63% and agree at 40.68%) as compared to Daima at 90.48% (strongly agree rating was 66.67% followed by agree at 23.81%). This was confirmed during onsite observation where the facilities were noted to be well maintained. At Daima, the washrooms inside the factory were noted to be okay except for the one located outside which were not well maintained as the water closet was not working. This was probably the reason 9.52% of the respondents neither agreed or disagreed. None of the respondents disagreed on this question in both organizations. Drinking water, washing facilities and accommodation for clothing were found adequate in both organizations at the time of research.

4.6 Staff Participation in Occupation Safety and Health

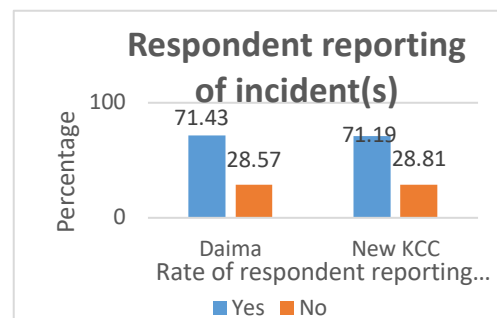
In order to establish the respondents level of participation in OSH matters, in line with the second objective of the study, respondents were asked questions on participation and there was a Likert scale where they were required to agree or disagree as shown in the Table 4.16, 4.17 and 4.18. During interview, there was confirmation by key respondents that staff have positive attitudes towards safety and health measures as long as they are paid, instructed and guided on what to do. There was confirmation that budgetary allocation by top management for safety and health was adequate and reviews are done on need to need basis e.g. when there are regulation changes. During onsite visit, management participation was further demonstrated by presence of valid registration of workplace permit which is OSHA 2007 requirement, NEMA reports, Single Business permits, Dairy Board Permits and provision of a safety & health policy statement signed by top management. At New KCC there was presence of accident register, inspection reports which included OSH, Fire Safety and Noisy survey as well as provision of cleaning facilities for staff PPEs as per researcher observation. It was noted that at New KCC, there was a detailed/elaborate Health and Safety manual, sign of management participation under the custody of the OSH leader which was not confirmed at Daima by respondents who participated.

4.6.1 Reporting of incidents likely to cause injury or accident to supervisor

In order to establish whether there was commitment of junior and management staff, respondents were asked whether they had ever reported an incident likely to cause injury or accident to their supervisor and responses were as shown in the Table 4.16 and Figure 4.30.

Table 4.16: Rating whether respondent has ever reported an incident likely to cause injury or accident.

	Yes		No		Total	
	F	%	F	%	F	%
Daima	15	71.43	6	28.57	21	100
New KCC	42	71.19	17	28.81	59	100



Source: Author, 2020

Figure 4.30 Rating whether respondent has ever reported an incident likely to cause injury or accident (Source: Author, 2020)

From Figure 4.30, it is clear that most respondents in both organizations had reported incidents likely to cause injuries with Daima at 71.43% while New KCC was at 71.19%. OSHA 2007 section 13 assigns the duty of reporting possible hazards to the employees. All workers are expected to participate in all deliberations concerning OSH and especially reporting any hazardous situation noted for action (Armstrong, 2010). From the responses/interview the most common incidents of injury or accidents reported included: electricity shock from machine, loose electrical connections, staff working without appropriate PPE, unguarded parts of machine, slippery floor, open ditches/manholes where staff could fall, steam leakage, leaking tank/pipe/pump with corrosive chemicals, blocked drainage, hanging pipes that can cause head injury, strongly smelling cleaning detergents, leaking refrigerant (ammonia), lack of a fume chamber at the lab and obstructed/blocked emergency door.

4.6.2 Rating whether respondent expectation was met after reporting

Table 4.17: Rating whether respondent expectation(s) was met after reporting incident(s)

	Yes		No		Total	
	F	%	F	%	F	%
Daima	15	71.43	6	28.57	21	100
New KCC	36	85.71	6	14.29	42	100

Source: Author, 2020

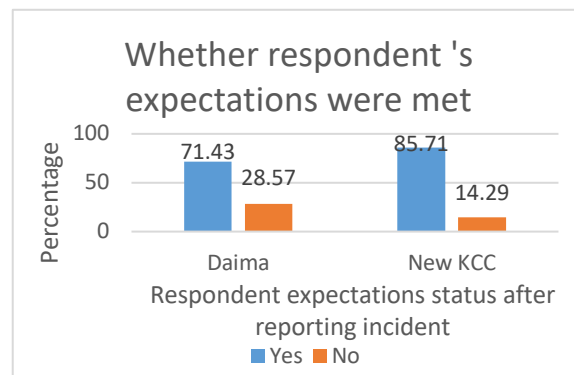


Figure 4.31: Rating whether respondent expectation(s) was met after reporting incident(s) (Source: Author, 2020)

Figure 4.31 affirms that there were action(s) taken after reporting incidents(s) to respondents' satisfaction with New KCC at 85.71% while Daima at 71.43%. This can be related to management commitment to resolving health and safety issues. Once staff report incidents and no action is taken, they are less likely to report next time. According to literature review, there should be no discrimination of workers by top management when they report safety concerns as the workers have a right to declare including liberty not to work in station/place they feel present danger to their safety (OSHA 2007 article 8).

4.6.3 Staff perception on participation in OSH

In the literature review, it is highlighted that when designing OSH programs, it's very important for the top management to involve all the employee since they are the paramount origin of suggestions on the safety and health system (Dessler, 2008). When all the members of staff are requested for suggestions during troubleshooting OSH matters, better and long lasting solutions are highlighted/implemented. In order to establish whether there was sufficient staff participation on issues of OSH, respondents were asked specific questions in a Likert scale format where they were required to agree or disagree with statements highlighted as shown in the Table 4.18.

Table 4.18: Staff Participation in Occupation Safety and Health

			Strongly Agree		Agree		Neither		Disagree		Strongly Disagree		Total	
			F	%	F	%	F	%	F	%	F	%	F	%
a)	I have participated in a meeting/forum about OSH at my workplace	Daima	11	52.38	7	33.33	1	4.76	1	4.76	1	4.76	21	100
		New KCC	17	28.81	22	37.29	7	11.86	10	16.95	3	5.08	59	100
b)	If I notice a workplace hazard, I can point out to management	Daima	11	52.38	5	23.81	3	14.29	2	9.52	0	0.00	21	100
		New KCC	31	52.54	24	40.68	3	5.08	1	1.69	0	0.00	59	100
c)	There is an active OSH committee assess working environment for hazards	Daima	6	28.57	6	28.57	5	23.81	3	14.29	1	4.76	21	100
		New KCC	15	25.42	23	38.98	14	23.73	5	8.47	2	3.39	59	100
d)	Employees cooperate with OSH committee and are free to report any possible hazards	Daima	8	38.1	5	23.81	5	23.81	2	9.52	1	4.76	21	100
		New KCC	18	30.51	34	57.63	5	8.47	2	3.39	0	0.00	59	100
e)	There is regular communication between employees and management and both participate in deliberating safety and health issues at my workplace	Daima	5	23.81	7	33.33	5	23.81	2	9.52	2	9.52	21	100
		New KCC	13	22.03	30	50.85	11	18.64	5	8.47	0	0.00	59	100
f)	There are formulated OSH guidelines and procedures to be used by all employees	Daima	6	28.57	7	33.33	5	23.81	2	9.52	1	4.76	21	100
		New KCC	21	35.59	31	52.54	3	5.08	4	6.78	0	0.00	59	100

Source: Author, 2020

4.6.3.1 Rating whether respondent has participated in a meeting/discussion/forum about OSH

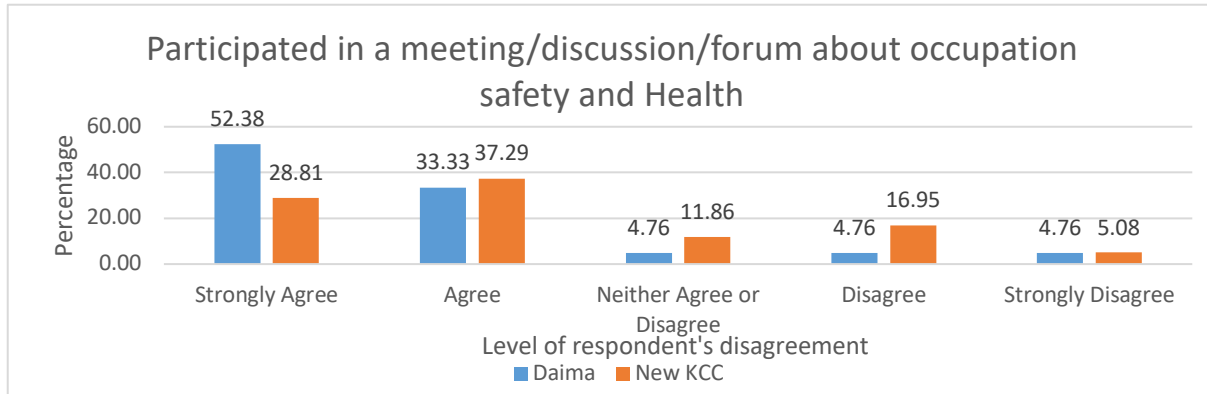


Figure 4.32: Rating whether respondent has participated in a meeting/discussion/forum about occupation safety and Health (Source: Author, 2020)

According to the literature review, participation of junior staff on matters of OSH is paramount since they are the most affected and can also provide more information being the ones on the ground. As detailed in Figure 4.32, there is a higher percentage of those who agreed to having participated in a meeting/discussion/forum about OSH than those who disagreed i.e. Daima scored higher at 85.71 % (52.38% strongly agreed and 33.33% agreed) than at New KCC scoring 66.10 % (28.81% strongly agreed and 37.29% agreed). This can be influenced by the high number of management level respondents at Daima than at New KCC who are the main people involved in OSH matters. It can also show that Daima has allowed more inclusivity on matters of health and safety than at New KCC. The respondents who disagreed were also noted to be more at New KCC at 22% (16.95% disagreed and 5.08% strongly disagreed) as compared to Daima 9.52% (4.76% disagreed and 4.76% strongly disagreed).

4.6.3.2 Rating whether respondent can point out hazard(s) to management

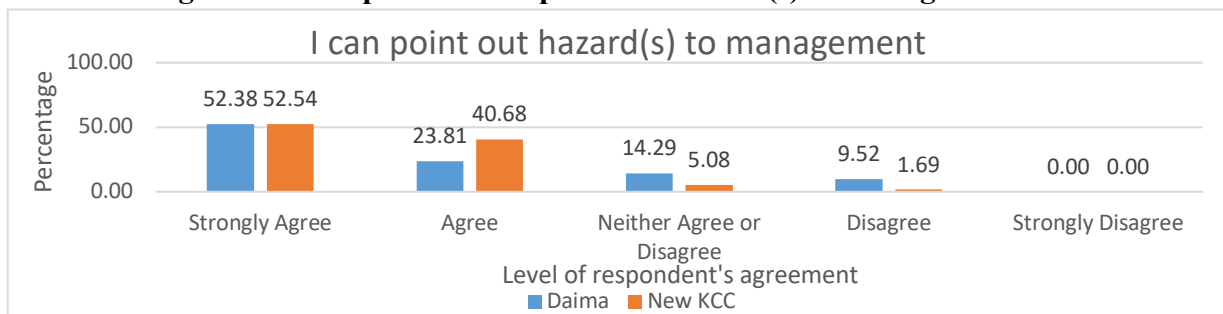


Figure 4.33: Rating whether respondent can point out hazard(s) to management (Source: Author, 2020)

As shown in Figure 4.33, both organizations are in agreement that respondents can point out hazards to management for more than 76% of them i.e. New KCC higher at 93.22% (Strongly agreed 52.54% and agreed 40.68%) compared to Daima at 76.19 (Strongly agreed 52.38% and agreed 23.81%). New KCC better performance can be related to higher level of awareness on importance of OSH at New KCC than at Daima and satisfaction on action taken after reporting incidents with potential to cause accidents/injuries. Staff are more likely to point out hazards when they are trained and action is taken after reporting unlike when there is no action which make staff less likely to point out hazards again in future as it will seem to them there is no need.

4.6.3.3 Rating whether there is an active Safety and Health committee

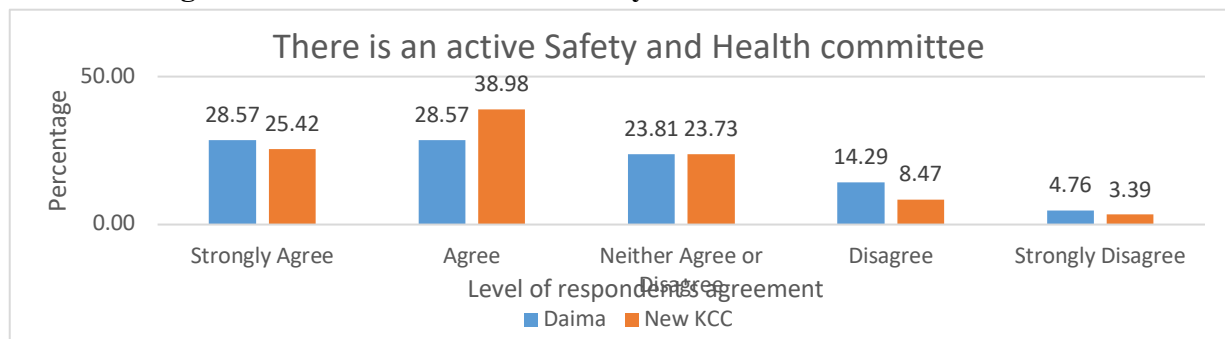


Figure 4.34 Rating whether there is an active Safety and Health committee (Source: Author, 2020)

It's a requirement in every workplace to have a safety and health committee (OSHA, 2007 section 9) which should be guided by Legal Notice no. 31 of 2004. According to Figure 4.34, more than 57% of the respondents in both organisations confirmed that there is an active health and safety committee i.e. New KCC slightly higher at 64.40% (Strongly agree 25.52% and agree at 38.98%) while at Daima 57.14% (Strongly agree and agree at 28.57%). These shows that at New KCC, the safety and health committee is more active which can be related to the observation by researcher at Daima where the committee members were not known by some of the staff interviewed. Another observation was that there was no OSH leader at Daima as his services had been terminated at the time of research however, the officer in charge of Daima at Nakuru plant was expected to take over the roles of safety and health at Nairobi Plant as well due to the low activities at Nakuru Plant (Daima respondents, 2020). At New KCC, there was an officer in charge of OSH activities based at Head Office who represented all New KCC locations. At the Factory level, the OSH committee was guided by the Factory Manager as chairman and Factory Engineer as the secretary (New KCC

respondents, 2020). The level of disagreement was also higher at Daima 19.05% (14.29 disagreed and 4.76% strongly disagreed) while at New KCC rating was 11.86% (Disagreed 8.47% and strongly disagreed 3.39%) which again showed the Health & Safety committee at Daima was less active. In both sites, there is need to ensure the Safety & Health committee is more active as the team is the main driver of safety & health matters as highlighted by OSHA 2007.

4.6.3.4 Rating whether employees cooperate with safety & health committee

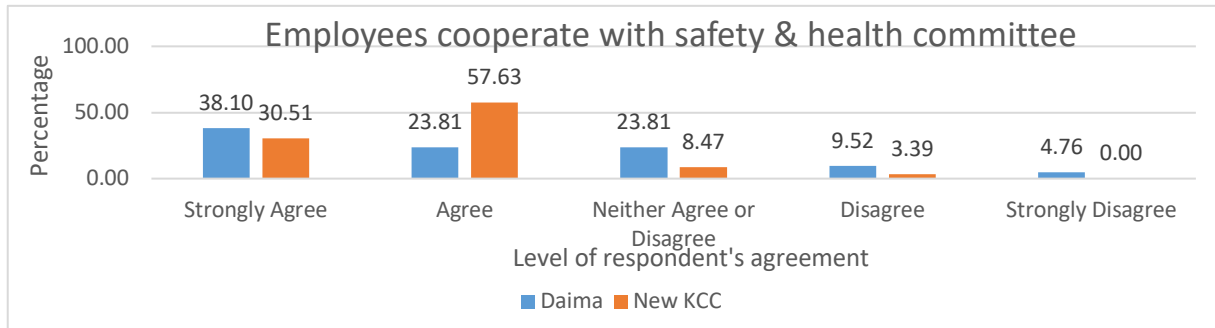


Figure 4.35: Rating whether employees cooperate with safety & health committee (Source: Author, 2020)

As shown in Figure 4.35, more than 60% of the respondents confirmed that employees cooperate with safety & health committee. There was a significant difference which shows at New KCC, the employees were cooperating more with safety and health committee compared to Daima i.e. New KCC at 88.14% (strongly agree 38.51% and agree 57.63%) while Daima at 61.91% (strongly agree 38.10% and agree 23.81%). This shows there was collaboration between the safety and health committee and employees in both workplaces which was good for success of OSH practices. The level of disagreement was also higher at Daima 14.28% (disagreed 9.52% and strongly disagreed 4.76%) while New KCC had 3.39% who disagreed (no one strongly disagreed). It is very important for employees to cooperate with safety and health committee for the effectiveness of OSH practices. Literature review states, that the health and safety committee is supposed to be forefront in risk assessment, health and safety audits and in the making suggestions on improving the OSH programmed (Armstrong, 2009). This can only be possible when the committee is active, members are known and they cooperate with all members of staff.

4.6.3.5 Rating whether employees and management participate in deliberating safety & health issues

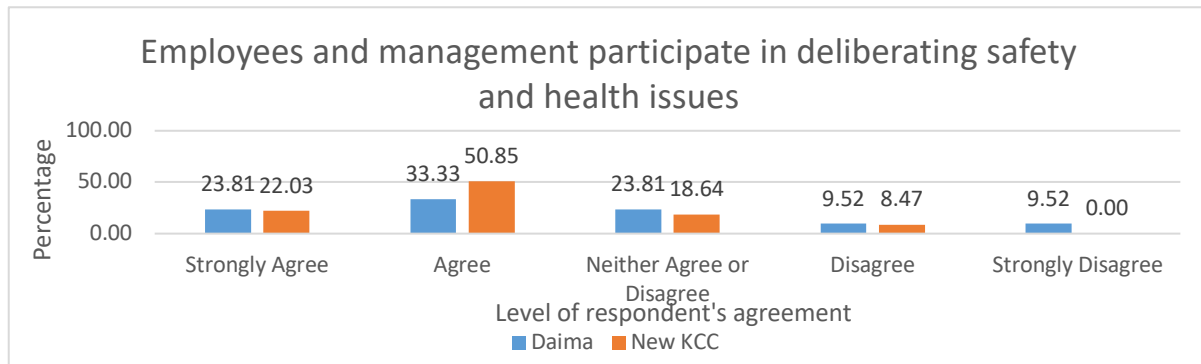


Figure 4.36: Rating whether employees and management participate in deliberating safety and health issues (Source: Author, 2020)

According to Figure 4.35, more than 57% of the respondents confirmed that employees and management participate in deliberating safety and health issues i.e. New KCC scored higher at 72.88% (Strongly agree 22.03% and agreed 50.85%) while Daima scored 57.14% (Strongly agree 23.81% and agreed 33.33%). This shows that in both organizations there was participation of management and employees in deliberating safety and health issues. The disagreement rate was also higher at Daima 19.04% (9.52% disagreed and strongly disagreed at 9.52%) whereas New KCC disagreed were 8.47% (none strongly disagreed).

4.6.3.6 Rating whether there are formulated guidelines for all staff to ensure safety



Figure 4.37: Rating whether there are formulated guidelines for all staff to ensure safety (Source: Author, 2020)

According to literature review, the first step of the management participation should be in coming up with health and safety policy which should incorporate the general policy statement, organization description and details of how the health and safety policy will be implemented

including consequences for not implementing procedures (Armstrong, 2009). As shown in Figure 4.36, more than 61% of the respondents confirmed that there are formulated guidelines for all staff and procedures to be used by employees when at work to ensure their safety as well as safety of their colleagues i.e. where New KCC was higher at 88.13% (Strongly agreed 35.59% and agreed 52.54%) than Daima at 61.90% (Strongly agreed 28.57% and agreed 33.33%) This shows both organization had taken steps in guiding staff on ensuring their safety. The level of disagreement was also higher at Daima rating 14.28 (disagreed 9.52 and strongly disagree 4.76%) while New KCC had 6.78% who disagreed (no one strongly disagreed). This was consistent with observations by researcher where it was noted that New KCC had a very elaborate Safety and Health manual under the custody of the health and safety officer, with the roles of every employee outlined. Most members of staff interviewed at New KCC were not aware of the safety manual when enquired. The Safety and Health policy had also been reviewed several times at New KCC between 2012 and 2018 as the copy on display was dated 12/02/2019 as compared to Daima which was dated 31/05/2011. Both policies were signed by the respective Management Director to show commitment. It was not possible for the researcher to determine whether there was a formulated Safety and Health manual or procedures at Daima, as both were neither available nor communicated. There was also a higher number of respondents at Daima who could not agree or disagree on availability of guidelines i.e. 23.81% as compared to New KCC 5.08%. It will be for the good of OSH practices, to ensure that the safety guidelines are effectively communicated to the users for implementation in both sites.

4.7 Staff Training on Occupation Safety and Health

During interviews, there was confirmation by respondents that the most common OSH trainings offered at Daima were firefighting and first aid, however, there was no training routine (Daima respondent, 2020) whereas at New KCC there were annual trainings most of the time on variety of topics including First Aid, OSH, Fire Fighting, Electricity Safety, HIV/ AIDs and Drug/substance abuse. New KCC being a parastatal, was following ministry guidelines however there were years' trainings were not done due to challenges like the COVID 19 for year 2019/2020 (New KCC respondent, 2020). At both sites, there was no training effectiveness done even though, those who participated in interviews confirmed the trainings were helping staff to work safely and reduce injuries/accidents/illnesses (key respondent at Daima and New KCC).

In order to establish the respondents training in OSH related matters, in line with the third objective of the study, respondents were asked questions on training participation presented in a Likert scale where they were required to agree or disagree with statements highlighted as shown in Tables 4.19, 4.20, 4.21, 4.22, 4.23 and 4.24.

4.7.1 Presence of Occupation Safety and Health training/sensitization

Table 4.19: Rating whether there is presence or absence of OSH trainings/sensitization

	Yes		No		Total	
	F	%	F	%	F	%
Daima	17	80.95	4	19.05	21	100
New KCC	54	91.53	5	8.47	59	100

Source: Author, 2020

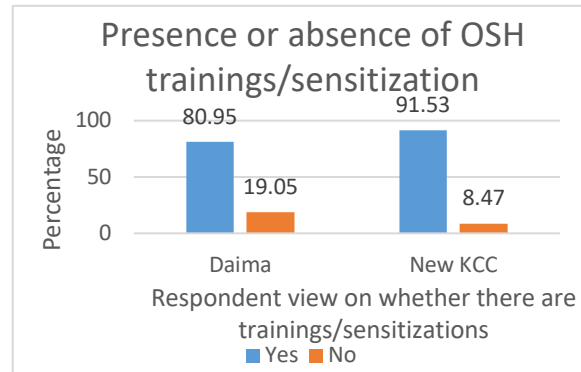


Figure 4.38: Rating whether there is presence or absence of OSH trainings/sensitization (Source: Author, 2020)

According to Table 4.19 and Figure 4.38, both organizations scored more than 80% in agreement that there is of OSH related trainings/sensitization i.e. Daima 80.95% while New KCC rated higher at 91.53%. Even though trainings are done in both organizations, some respondents highlighted that those training were not provided equally to all employees. According to the literature review, with globalization, risks and hazards are always changing at workplaces and as a result, it's the management responsibility to ensure that members of staff are continuously trained on OSH hazards. With time there is need of refreshing training due to upcoming hazards. The last training attendance sheet that the researcher found was dated July 2018 for fire safety and first aid at New KCC while at Daima there were fire safety training certificates dated 13th July 2013. This shows the frequency of training at Daima was lower as compared to New KCC.

4.7.2 Training(s) respondent have participated

Table 4.20: OSH related trainings that the respondent had participated

	Daima		New KCC	
	F	%	F	%
First Aid	16	76.19	34	57.63
Fire safety	12	57.14	34	57.63
HIV/AIDS	1	4.76	26	44.07
Machinery/Plant safety	5	23.81	3	5.08
Drug and Substance Abuse	1	4.76	20	33.90
Electrical safety	2	9.52	5	8.47
Workplace Health Hazards	8	38.10	9	15.25
Personal Protective Equipment	6	28.57	5	8.47
OSHA Training	0	0.00	1	1.69

Source: Author, 2020

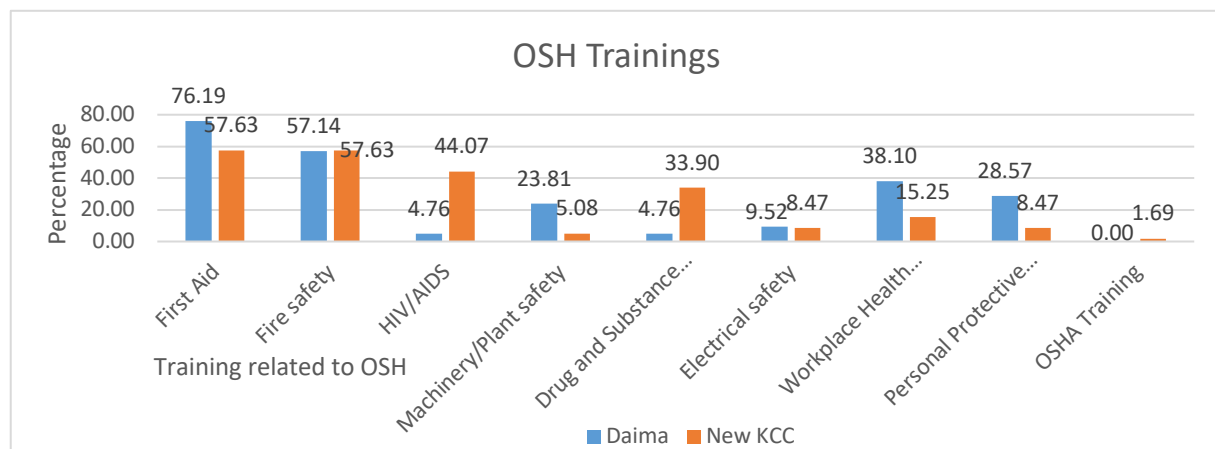


Figure 4.39: OSH related trainings that the respondent had participated (Source: Author, 2020)

As shown in Table 4.20 and Figure 4.39, the two most rated OSH trainings at Daima and New KCC were First Aid (Daima rated higher at 76.19% than New KCC at 57.63%) and Fire Safety training (New KCC was slightly higher at 57.63% compared to Daima 57.14%). The effectiveness of the two trainings were confirmed by presence of equipped first aid boxes under custody of first aiders (Daima had three while New KCC had five strategically positioned) and fire safety preparedness where the fire points were labeled, strategically positioned, unobstructed and inspected. Though Daima scored better in first aid training as per questionnaire, those interviewed highlighted that there were cases of those injured been taken to hospital without first aid due to

inadequate number of first aiders, whereas others were of the view that the training done needed to be refreshed. According to literature review, the main areas of OSH trainings proposed were safe working methods, safe machine/equipment operation, proper use of PPEs, occupation accidents, HIV & AIDs, handling of hazardous chemicals, drugs and substance abuse (MOL, 2013) which were all among the trainings offered by the two organizations as per details in Table 4.20 and Figure 4.39.

4.7.3 Training Duration

Table 4.21: Trainings durations

	Daima		New KCC	
	F	%	F	%
1 hour - 1 day	2	9.52	17	28.81
2 - 3days	6	28.57	29	49.15
4 – 7 days	4	19.05	8	13.56
8 days – 1 month	5	23.81	1	1.69
2 – 6 months	1	4.76	0	0.00
7 months – 1 year	0	0.00	4	0.00

Source: Author, 2020

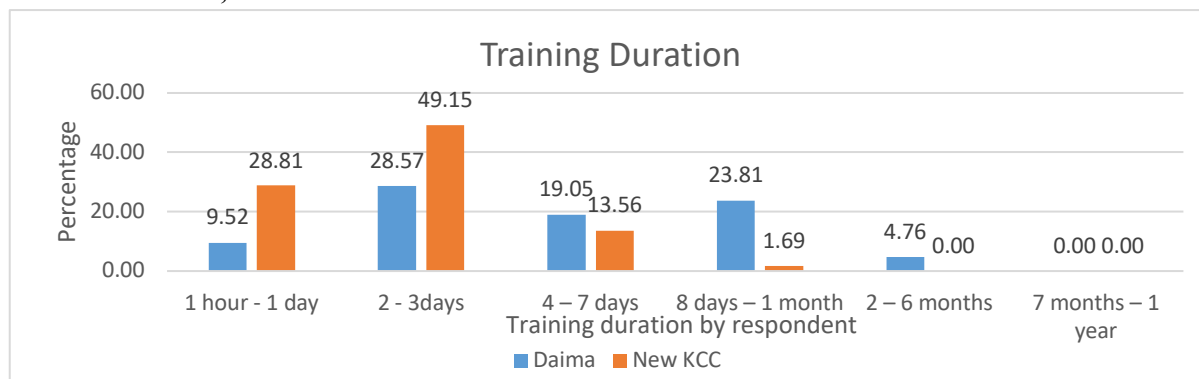


Figure 4.40: OSH related training(s) duration (Source: Author, 2020)

Table 4.21 and Figure 4.40 shows in both organizations the longest duration of training was 2 – 3 days. In order of frequency at New KCC longest duration was at 49.15% (2 – 3 days) followed by 1 hour – 1 day (28.81%), 4 – 7 days (13.56%) and 8 day – 1 month (1.69%) respectively while at Daima longest duration was 28.57% (2-3days), followed by 8 days – 1month (23.81%), 4 – 7 days (19.05%), 1 hour to 1 day (9.52%) and 2 – 6 months (4.76%) respectively. Duration 1 hour to 7 days were the most common at both sites which are related to short term trainings like first

aid, fire safety, HIV/AIDS, PPEs, electric safety and drug/substance safety. Those trainings that require longer than 8 days are more specialised training which needs more time. Daima had highest long term trains i.e. 8 days – 1month (23.81%) and 2 – 6 months (4.76%) as compared to New KCC which had 1.69% and 0% respectively. None of the respondents in the two organizations had trained for longer than 7 months which requires them to go to specific training institutions for specialised trainings. The longer the training, the more detailed the training. According to literature review it's not just enough to form a health and safety committee, the members should have attended OSH related training in order to help them in duties they are assigned especially on OSH trends meaning the training opt to be refreshed (Armstrong, 2009).

4.7.4 Training Frequency

Table 4.22: Trainings Frequency

	Once per year		Twice in a year		No routine		Never trained		Total	
	F	%	F	%	F	%	F	%	F	%
Daima	4	19.05	5	23.81	11	52.38	1	4.76	21	100
New KCC	22	37.29	12	20.34	23	38.98	2	3.39	59	100

Source: Author, 2020

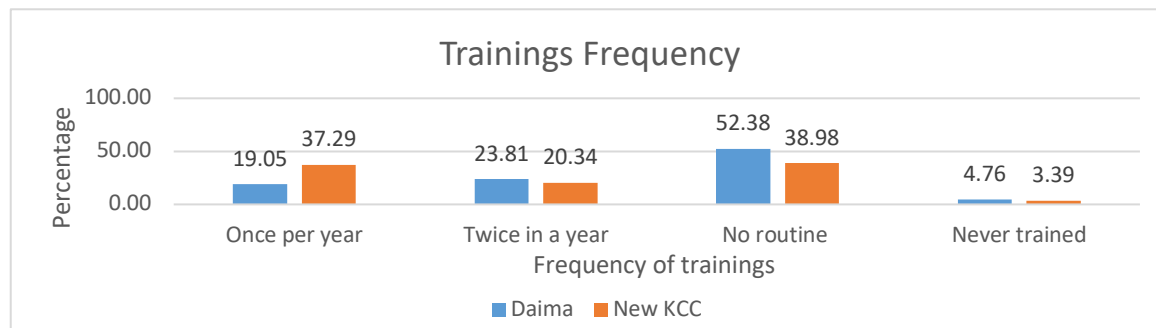


Figure 4.41: OSH related training(s) frequency (Source: Author, 2020)

According to Table 4.22 and Figure 4.41, at Daima, those that indicated that there is no routine of training were at (52.38%) as compared to New KCC (38.98%) which can be related to the fact that the last training at Daima according to the first aid and fire safety training attendance sheet(s) was dated July 2013 while at New KCC it was dated July 2018. This clearly shows that the scheduled refresher trainings for First Aid and Fire safety are not being done yearly as required by related regulations. At New KCC there were several trainings from 2007 – 2018 though not every year (duration OSHA 2007 has been in place) i.e. some of the records included 2007 (safety & health committee training), 2008 (fire marshals & first aid), 2010 (first aid & basic Occupational safety

training), 2011 (disability mainstreaming), 2012 (alcohol & drug abuse, first aid at work and HIV/AIDs awareness), 2013 (Safety & health training), 2014 (First Aid), 2016 (First Aid) and 2018 (First aid & fire safety trainings). There were more efforts to train staff on safety related trainings regularly at New KCC than at Daima as respondents highlighted during interviews. There were also more respondents who said they had never been trained at Daima (4.76%) while New KCC had 3.39%. It was also confirmed during site visit that New KCC had a Food Safety Management System (ISO 22000:2005 which was in transition to ISO 22000:2018) and Quality Management System (ISO 9001:2015) where the two management system were boosting the organization in complying to OSHA 2007 as they had a requirement that those implementing the standards should comply with applicable regulatory and statutory requirements unlike at Daima which was still developing a Food Safety Management System.

4.7.5 Respondents perceptions on extent of training

In order to establish perception of staff on training extent, respondents were asked specific questions in a Likert scale format where they were required to agree or disagree with statements highlighted as shown in the Table 4.23.

Table 4.23: Staff training in Occupation Safety and Health

			Strongly Agree		Agree		Neither		Disagree		Strongly Disagree		Total	
			F	%	F	%	F	%	F	%	F	%	F	%
a)	I am trained on proper use of Personal Protective Equipment	Daima	11	52.38	8	38.1	0	0.00	2	9.52	0	0.00	21	100
		New KCC	25	42.37	23	38.98	4	6.78	7	11.86	0	0.00	59	100
b)	There are regular OSH trainings when starting, a new job, changing job, or new equipment technology	Daima	5	23.81	11	52.38	0	0.00	5	23.81	0	0.00	21	100
		New KCC	18	30.51	25	42.37	10	16.95	6	10.17	0	0.00	59	100
c)	Employees are able to apply the new skills and knowledge acquired during safety training	Daima	6	28.57	12	57.14	3	14.29	0	0.00	0	0.00	21	100
		New KCC	12	20.34	34	57.63	8	13.56	5	8.47	0	0.00	59	100
d)	Inexperienced machine operators work under supervision	Daima	9	42.86	7	33.33	2	9.52	2	9.52	1	4.76	21	100
		New KCC	13	22.03	31	52.54	12	20.34	3	5.08	0	0.00	59	100
e)	When workers are trained cost implications reduce and they less supervision	Daima	7	33.33	4	19.05	4	19.05	4	19.05	2	9.52	21	100
		New KCC	21	35.59	27	45.76	10	16.95	0	0.00	1	1.69	59	100
f)	I have the knowledge I require to respond to any Safety and Health concern at my workplace	Daima	12	57.14	6	28.57	1	4.76	2	9.52	0	0.00	21	100
		New KCC	23	38.98	22	37.29	12	20.34	1	1.69	1	1.69	59	100
g)	All employees are well-versed on action to take in case of emergencies	Daima	7	33.33	7	33.33	5	23.81	1	4.76	1	4.76	21	100
		New KCC	10	16.95	25	42.37	15	25.42	7	11.86	2	3.39	59	100

Source: Author, 2020

4.7.5.1 Rating whether respondent had been trained on proper use of PPE

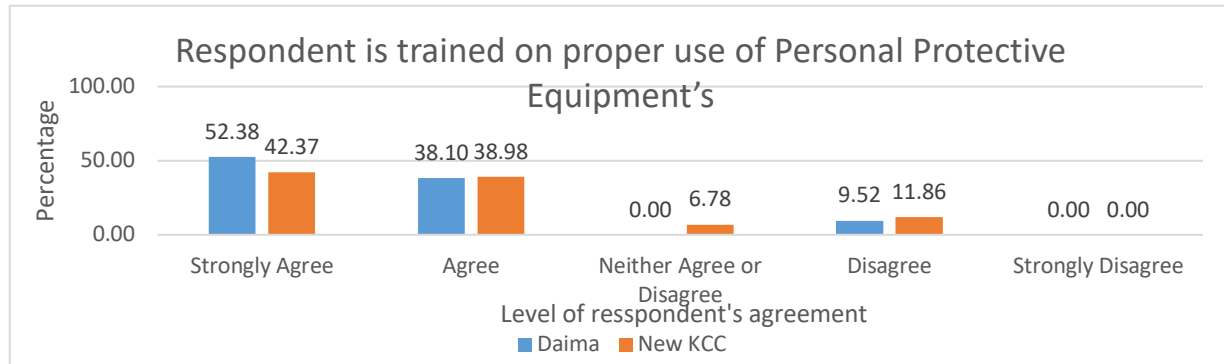


Figure 4.42: Rating whether respondent had been trained on proper use of PPE (Source: Author, 2020)

According to Figure 4.42, there were higher respondents than 81% trained on proper use of PPE at both organizations i.e. at Daima 90.48% (Strongly agree 52.38% and agree 38.10) than New KCC at 81.35% (Strongly agree 42.37% and agree 38.98%). This shows both organizations have trained their staff on how to use PPE effectively which is very important in preventing OSH related hazards. According to the literature review, it is an offence punishable by law for a worker (employee) to fail to use PPEs provided or fail to follow instruction(s) on safety and health as directed by a person in authority (OSHA 2007). However, this can only be done properly when the workers are trained on how to use PPE properly coupled with detecting and reporting their faults for immediate repair/replacement (ILO, 2020).

4.7.5.2 Rating whether there are regular health and safety trainings when starting a new job (induction), changing job (transferred), new equipment's bought or introduce new technology

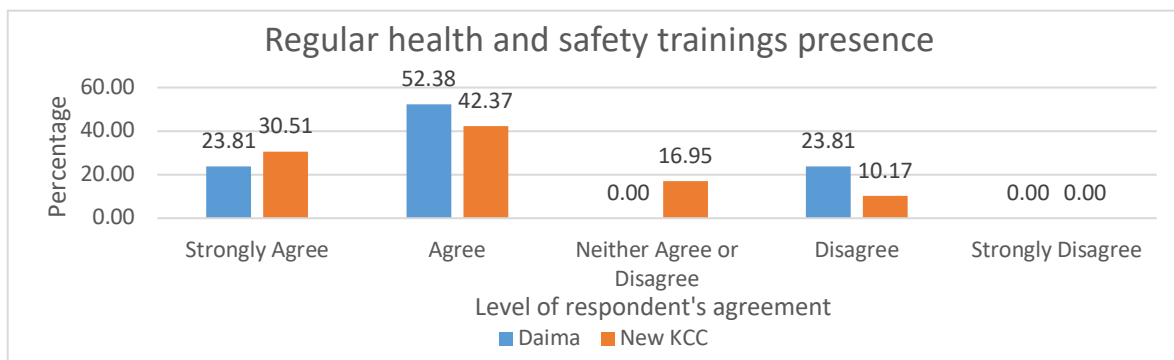


Figure 4.43: Rating whether there are regular health and safety trainings (Source: Author, 2020)

According to Figure 4.43, both organizations had rating of higher than 72% confirming that there are regular health and safety trainings when starting a new job (induction), changing job (transferred), new equipment's bought or introduce new technology i.e. Daima higher at 76.19% (Strongly agree 23.81% and agree 52.28%) while New KCC 72.88% (Strongly agree 30.51% and agree 42.37%). None of the respondents strongly disagreed

Even though Daima had slightly higher confirmation, there was a higher disagreement of 23.81% as compared to New KCC at 10.17%. This can be related to the availability of records of trainings related to safety at New KCC (different years and topics for the period 2007 – 2018) which could not be confirmed at Daima. According to the literature review, it is important to have regular training in order to implement an effective health and safety programme. There are always upcoming hazards with globalization/technology that need to be addressed through regular effective trainings to all staffs on safety and health.

4.7.5.3 Rating whether employees are able to apply the new skills and knowledge acquired

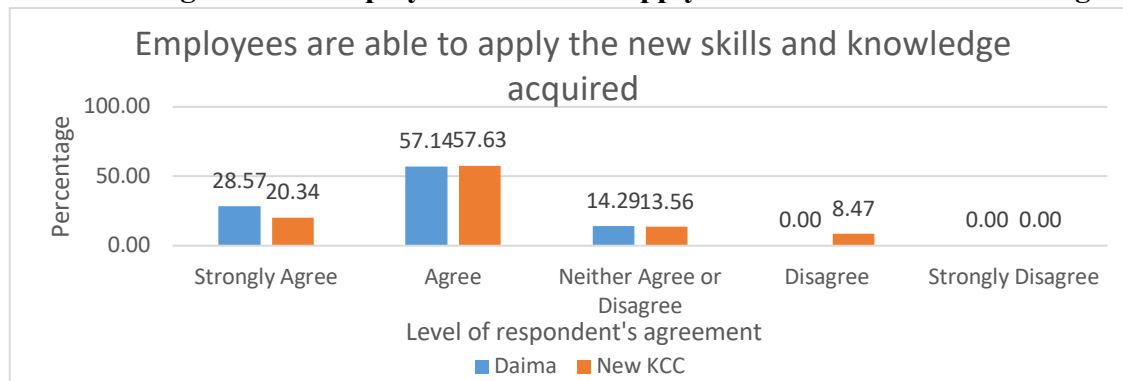


Figure 4.44: Rating whether employees are able to apply the new skills and knowledge acquired (Source: Author, 2020)

According to Figure 4.44, Daima scored better than New KCC in regards to employees applying knowledge and skills acquired during health and safety training(s) i.e. Daima at 85.71% (Strongly agree 28.57% and agree 57.14%) while New KCC at 77.97% (Strongly agree 20.34% and agree 57.63%). There were no responded that disagreed, however 14.29% of the respondents at Daima 8.47% at New KCC neither agreed or disagreed which can be interpreted as the same respondents who never got opportunity to apply skill/knowledge acquired. Those who scored neither agree or

disagree as well as those who disagreed should be assigned roles that will make use of the skills acquired at Daima and New KCC.

4.7.5.4 Rating whether inexperienced machine operators work under supervision

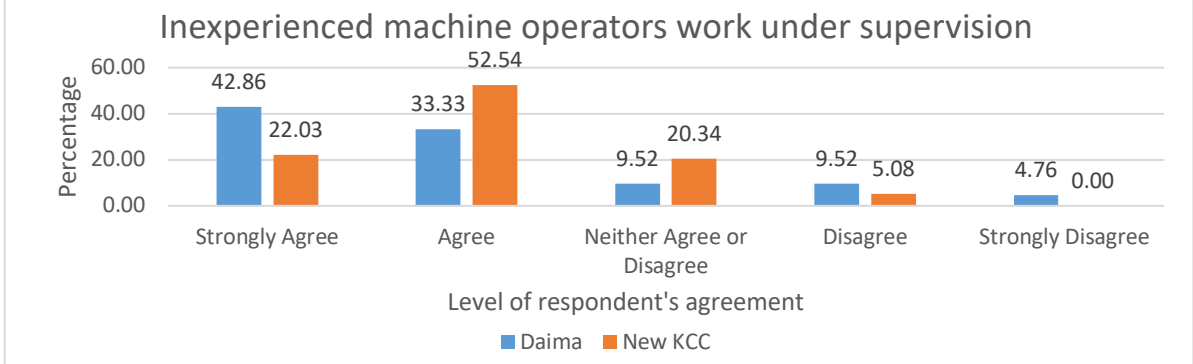


Figure 4.45: Rating whether inexperienced machine operators work under supervision (Source: Author, 2020)

According to the literature review, OSHA 2007 article 98 requires supervision of apprentice and indentured learners. It’s also an offence in the OSHA 2007 to fail to train operator if the machine is likely to cause bodily injury (section 99). Figure 4.45 shows a higher rating (more than 70%) was noted in confirmation that inexperienced machine operators work under supervision i.e. Daima slightly higher at 76.19% (Strongly agree 42.86% and agree 33.33%) while New KCC 74.57% (Strongly agree 22.03% and agree 52.54%). However a higher number disagreed at 14.28% (Disagree 9.52% and strongly disagree at 4.76%) as compared to New KCC who only disagreed 5.08%. This shows probability of closely supervising inexperienced machine operators at Daima and New KCC was high. At New KCC, a higher number scored niether agree or disagree at 20.34% as comapired to Daima at 9.52% which can be interpreted as there being supervision of inexperienced machine operators however may not be adequate. Both organizations need to ensure inexperienced machine operators work under supervision.

4.7.5.5 Rating whether training workers reduce cost implications, motivate them and they require less supervision & guidance

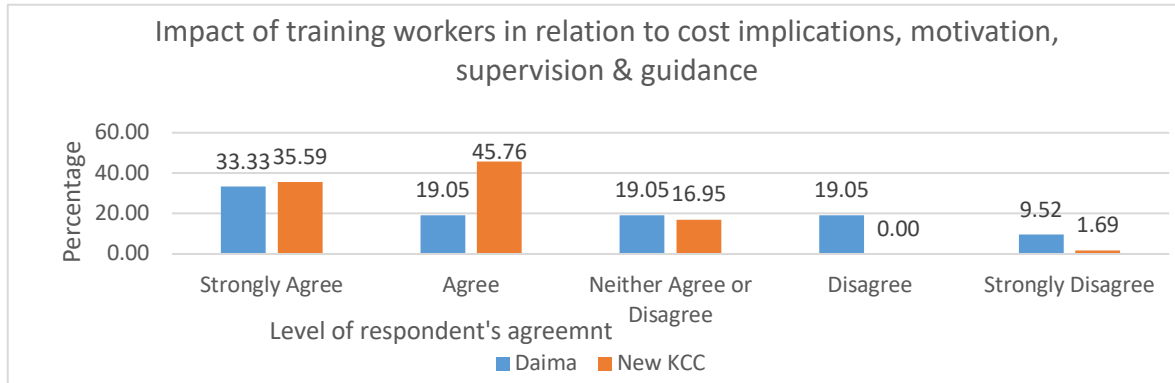


Figure 4.46: Rating whether training workers reduce cost implications, motivate them and they require less supervision & guidance (Source: Author, 2020)

According to Figure 4.46, New KCC scored higher in confirmation that when workers are trained cost implications (e.g. fines, compensation, loss of revenue) reduce and they become more motivated thus require less supervision and guidance on safety and health matters i.e. New KCC 81.35% (Strongly agree 35.59% and agree 45.76%) while Daima was 52.38% (Strongly agree 33.33% and agree 19.05%). This can be related to the period the members of staff had served the organization where at New KCC, most of the respondents had served longer as compared to Daima. This is in line with literature review where its stated that when workers are trained, they become more motivated and require less supervision and guidance on OSH matters (Gupta, 2006). An effective OSH training is expected to prevent hazards that may cause injury/accidents (Armstrong 2009).

4.7.5.6 Rating whether respondent have the knowledge they require to respond to any Safety and Health concern

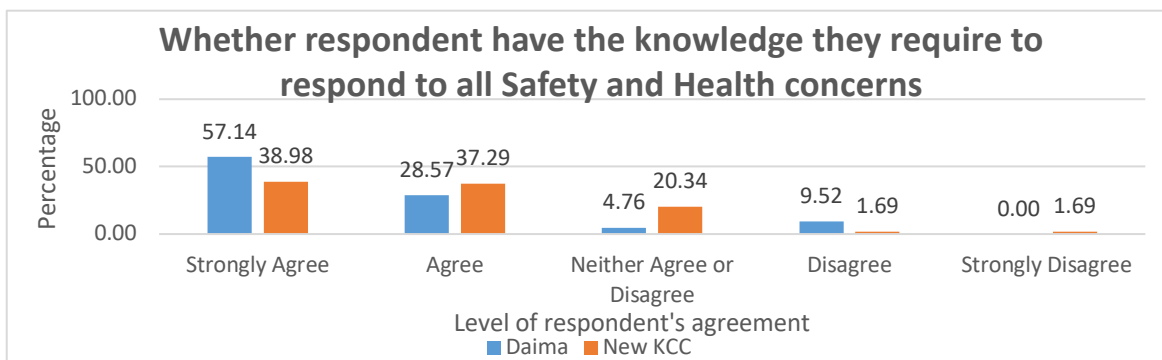


Figure 4.47: Rating whether respondent have the knowledge they require to respond to any Safety and Health concern (Source: Author, 2020)

Safety of staff at work has a bearing on good quality work and job satisfaction which improve the general quality of life of the worker and community (WHO, 2002). According to Figure 4.47, more than 76% of respondents at Daima and New KCC are in agreement that they have the knowledge they require to respond to any Safety and Health concern at their workplace i.e. Daima higher at 85.71% (Strongly agree 57.14% and agree 28.57%) and New KCC at 76.27% (Strongly agree 38.98% and agree 37.29%). However, Daima respondents also scored higher in disagreement at 9.52% as compared to New KCC at 3.38% (disagree 1.69 and strongly disagree 1.69%). There was also noted a higher number of those who could not agree or disagree at New KCC (20.34%) while Daima was 4.76% which can be related to those trained but did not find the training adequate. To bring all the respondents on board, there is need for both organizations to ensure more appropriate specialized trainings on health and safety according to the needs of staff.

4.7.5.7 Rating whether all employees are well-versed on action to take in case of emergencies

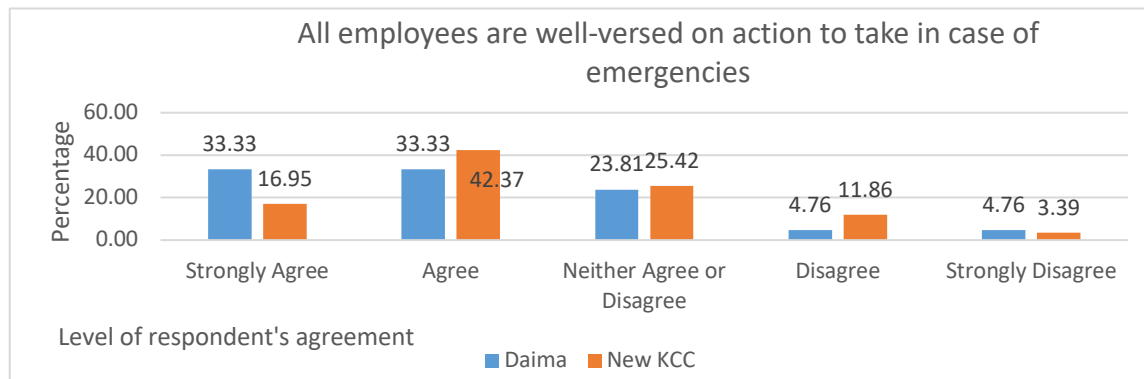


Figure 4.48: Rating whether all employees are well-versed on action to take in case of emergencies (Source: Author, 2020)

According to Figure 4.48, both organizations had a higher agreement that all employees are well-versed on action to take in case of emergencies with Daima higher at 66.66% (strongly agree and agree scored 33.33% each) while New KCC scored 59.32% (Strongly agree 16.95% and agree 42.37%). This was also noted with the respondents that disagreed who were higher at New KCC 15.25% (disagree 11.86 and strongly disagree 3.39%) while Daima scored 9.52% (strongly disagree and agree at 4.76% each). This means Daima has heightened level of emergency awareness and preparedness as compared to New KCC. As per the literature review, with globalization and technology, there are always upcoming hazards that need to be addressed through effective trainings to all staffs.

4.7.6 Training Effectiveness

Table 4.24: Training effectiveness

	Daima		New KCC	
	F	%	F	%
Not effective at all	0	0.00	0	0.00
Slightly effective	2	11.76	13	24.07
Somewhat effective	0	0.00	5	9.26
Very effective	10	58.82	34	61.11
Extremely effective	4	23.53	3	5.56
Don't know	1	5.88	0	0.00
Total	17	100.00	54	100.00

Source: Author, 2020

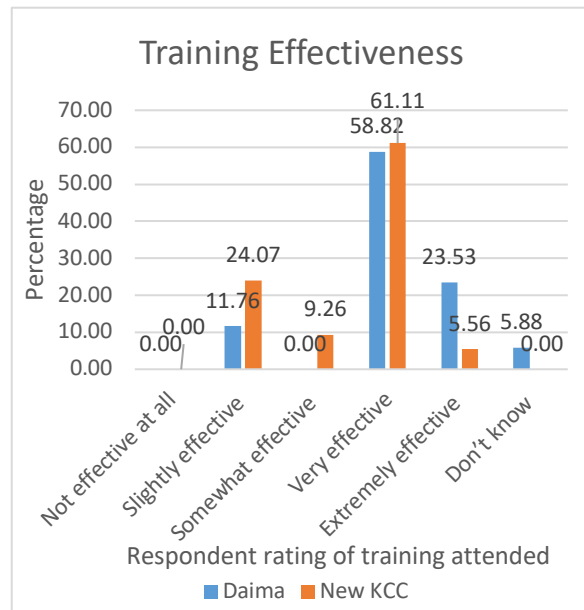


Figure 4.49: OSH related training(s) effectiveness (Source: Author, 2020)

Figure 4.49 and Table 4.24 shows for those who had been trained in both organizations, they rated the training very effective in helping them with issues related to OSH i.e. Daima 58.82% and New KCC 61.11%. As a result, it is expected that the OSH training would help prevent hazards that may cause injury/accidents (Armstrong, 2009) and the trained workers are more motivated and require less supervision and guidance on OSH matters (Gupta, 2006) as per the literature review. None of the respondents scored that the trainings offered were not effective at all in both organizations showing that all trainings were relevant.

4.8 Testing of the hypotheses

In order to determine the relationship between OSH practices and protection of staff from hazards, staff participation and staff training, the following hypotheses were tested:

4.8.1 Hypothesis 1

H₀: The protection of staff from hazards has no influence on implementing of OSH practices at New KCC Dandora and Daima Dairy.

H₁: The protection of staff from hazards has influence on implementing of OSH practices at New KCC Dandora and Daima Dairy.

The first hypothesis was tested using the data obtained on the staff protection from hazards.

Table 4.25: Respondent rating of safety measures put in place at workplace

Question	Organization	Average	Good	Very Good	Excellent	Total	Score for Good, Very Good and Excellent
How would you rate safety measures put in place to protect workers at your workplace?	Daima %	33.33	42.86	9.52	9.52	95.24	61.90
	New KCC %	28.81	44.07	16.95	1.69	91.53	62.71

Source: Author, 2020

Both sites scored more than 91% with Daima scoring 95.24% for Average, Good, Very Good and Excellent score while New KCC scored slightly higher on the score for Good, Very Good and Excellent combined at 62.71%

Table 4.26: Respondent rating on employer provision with safety resources at workplace

Question	Organization	Yes	No	Total
Has your employer provided you with the resources you require to be safe at work?	Daima	85.71	14.29	100
	New KCC	83.05	16.95	100

Source: Author, 2020

Both sites scored more than 83% with Daima scoring slightly higher (85.71%) in confirmation that safety resources are provided

Table 4.27: Respondent rating on staff protection Likert scale questions

Staff Protection agree & strongly agree scores (Likert scale)			
	Question	Daima %	New KCC %
a)	Safety and Health at my workplace is considered crucial to the success of the organization	80.95	88.14
b)	Safety in working area has been ensured through proper ergonomics	66.67	81.35
c)	Where there are hazards supervisors implement job rotation.	71.43	64.41
d)	There is maintenance of personal hygiene and clean work environment at my workplace	85.71	91.53
e)	My job allows for adequate health breaks.	66.67	59.32
f)	The organization is well prepared to handle medical emergencies	80.95	79.66
g)	Medical examinations are carried out regularly for those people who work in hazardous stations	76.19	69.49
h)	There are annual fire drills to test emergency preparedness at my workplace	52.39	47.45
i)	The organization provides basic workplace amenities as required by law	90.48	98.31
	% Mean	74.60	75.52

Source: Author, 2020

Both sites scored more than 74% with New KCC scoring slightly higher at 75.52%

Based on the findings shown in in Table 4.27, all the parameters tested were scored more than 60% and there was no significant difference in their mean scores as per table below:

Table 4.28: Average ratings on staff protection by respondents

Parameters	Daima	New KCC
1- Rate of safety measures at workplace as good, very good and excellent	61.9	62.71
2 - Eemployer provision of safety resources to workers	85.71	83.05
3 -Likert Scale scores	74.6	75.52
Mean Score	74.07	73.76

Source: Author, 2020

This confirms that there was a significant relationship between staff protection and OSH practices. The null hypothesis is hereby rejected and alternative hypothesis accepted.

4.8.2 Hypothesis 2

H₀: Participation of staff has no influence on implementing of OSH practices at New KCC Dandora and Daima Dairy.

H₂: Participation of staff has influence on implementing of OSH practices at New KCC Dandora and Daima Dairy.

Using the data obtained from the staff participation, the following was used:

Table 4.29: Respondent confirmation on reporting incidents likely to cause injury/accidents

Question	Organization	Yes	No	Total
Have you ever reported an incident likely to cause injury or accident to your supervisor for preventive measures to be taken?	Daima	71.43	28.57	100
	New KCC	71.19	28.81	100

Source: Author, 2020

The researcher used this question to determine participation of staff in reporting where both organizations scored similar scores of 71% confirming there is participation in both sites. Daima scored slightly better at 71.43%.

Table 4.30: Respondent confirmation on action after reporting incidents likely to cause injury/accidents

Question	Organization	Yes	No	Total
In reference to action taken (or not taken), were your expectation(s) met?	Daima	71.43	28.57	100
	New KCC	85.71	14.29	100

Source: Author, 2020

The researcher used this question to determine participation of management in addressing OSH issues reported by staff where the confirmation in both sites were above 71% with New KCC scoring better at 85.71%.

Table 4.31: Respondent rating on staff participation Likert scale questions

Staff participation agree & strongly agree scores (Likert scale)			
	Question	Daima %	New KCC %
a)	I have participated in a meeting/discussion/forum about occupation safety and Health at my workplace	85.71	66.1
b)	If I notice a workplace hazard, I can point out to management	76.19	93.22
c)	There is an active Safety and Health committee at my workplace that assess working environment for hazards and continuously review accident prevention measures	57.14	64.4
d)	Employees cooperate with safety & health committee and are free to report any possible hazards especially areas or equipment requiring repairs/maintenance	61.91	88.14
e)	There is regular communication between employees and management and both participate in deliberating safety and health issues at my workplace	57.14	72.88
f)	There are formulated guidelines for all staff and procedures to be used by employees when at work to ensure their safety as well as safety of their colleagues	61.9	88.13
	% Mean	66.67	78.81

Source: Author, 2020

The Likert scale questions were scored in agreement more than 65% in both sites where New KCC was leading at 75.54%. Based on the findings above, all the parameters tested were scored more than 65% with New KCC scoring better (78.57%) than Daima (69.84%) in average as per the table below:

Table 4.32: Average ratings on staff participation by respondents

Parameters	Daima	New KCC
1- Reporting of accidents	71.43	71.19
2- Action after reporting satisfactory	71.43	85.71
3- Likert Scale scores	66.67	78.81
Mean Score	69.84	78.57

Source: Author, 2020

This confirms that there was a significant relationship between staff participation and OSH practices. The null hypothesis is hereby rejected.

4.8.3 Hypothesis 3

H₀: Training of staff on has influence on implementing OSH practices at New KCC Dandora and Daima Dairy.

H₃: Training of staff on has influence on implementing OSH practices at New KCC Dandora and Daima Dairy.

Using the data obtained from the staff training, the following was used:

Table 4.33: Respondent rating on OSH awareness Likert scale questions

Staff training agree & strongly agree scores (Likert scale)			
	Question	Daima %	New KCC %
a)	I am familiar with Occupational Safety and Health Act of 2007	71.43	74.57
b)	There are regular healthy and safety trainings when starting a new job (induction), changing job (transferred), new equipment's bought or introduce new technology	90.48	83.05
c)	Employees are able to apply the new skills and knowledge acquired during safety training	95.24	81.36
d)	I am familiar with the organization's occupational Safety and Health policy	100	98.31
e)	When workers are trained cost implications (e.g. fines, compensation, loss of revenue) reduce and they become more motivated thus require less supervision and guidance on safety and health matters	90.48	94.91
f)	I know my rights and responsibilities regarding Safety and Health	71.43	72.88
g)	All employees are well-versed on action to take in case of emergencies	76.19	57.63
	% Mean	85.04	80.39

Source: Author, 2020

Table 4.33 confirms that there was more than 80% of awareness on OSH aspects highlighted with Daima leading at 85.04%

Table 4.34: Respondent rating on employer conducting sensitization/training on OSH

Question	Organization	Yes	No	Total
In your opinion, are there awareness sensitization/training on occupation Safety and Health carried out by your organization	Daima %	80.95	19.05	100
	New KCC %	91.53	8.47	100

Source: Author, 2020

There was a higher confirmation by respondents that there are awareness sensitizations/trainings on OSH at both sites at above 80% with New KCC scoring better at 91.53%.

Table 4.35: Respondent rating on variety of trainings offered by employer on OSH

Question	Organization	First Aid	Fire safety	HIV/AIDS	Machinery/ Plant safety	Drug and Substance Abuse	Electrical safety	Workplace Health Hazards	Personal Protective Equipment	OSHA Training	Total trainings out of 9
Which training on safety and health have you participated (you can check more than one)	Dai ma %	76.19	57.14	4.76	23.81	4.76	9.52	38.10	28.57	0.00	88.89
	New KCC %	57.63	57.63	44.07	5.08	33.90	8.47	15.25	8.47	1.69	100

Source: Author, 2020

The findings confirm there were varieties of trainings related to OSH provided in both sites with first aid and fire safety being the most prioritized training in both sites. Daima provided 8 of the nine trainings (89%) while New KCC provided all the nine trainings (100%).

Table 4.36: Respondent rating on duration of trainings offered by employer on OSH

Question	Organization	1 hour - 1 day	2 - 3days	4 - 7 days	8 days - 1 month	2 - 6 months	7 months - 1 year
Training duration?	Daima %	9.52	28.57	19.05	23.81	4.76	0.00
	New KCC %	28.81	49.15	13.56	1.69	0.00	0.00

Source: Author, 2020

The duration of the trainings was confirmed at 1 hour to seven days at more than 57% in both sites with New KCC leading at 93.21%. Apart from Daima which had 4.76% training duration of 2 – 6 months, the two sites had not provided trainings that lasted 7 months to 1 year.

Table 4.37: Respondent rating on frequencies of trainings offered by employer on OSH

Question	Organization	Once per year	Twice per year	Total	No routine
How often are training and sensitization on occupation safety and health done at your workplace?	Daima %	19.05	23.81	42.86	52.38
	New KCC %	37.29	20.34	57.63	38.98

Source: Author, 2020

From Table 4.37, there were trainings scheduled once or twice per year where New KCC scored 57% and Daima 42.86%. There was evidence there are trainings however, there is need of routine evaluation by both sites to incorporate those who scored no routine at 52.38% Daima and 38.98 New KCC.

Table 4.38: Respondent rating on effectiveness of trainings offered by employer on OSH

Question	Organization	Slightly effective	Somewhat effective	Very effective	Extremely effective	Total
In your view, was the training effective in helping you with issues related to occupation safety and health?	Daima %	9.52	0.00	47.62	19.05	76.19
	New KCC %	22.03	8.47	57.63	5.08	93.22

Source: Author, 2020

For those who attended the trainings, there was confirmation that they were either slightly, somewhat, very or extremely effective at more than 76% in both sites. New KCC led at 93.22% confirming effectiveness of the training.

Table 4.39: Respondent rating on staff training Likert scale questions

Staff training agree & strongly agree scores (Likert scale)			
	Question	Daima %	New KCC %
a)	I am trained on proper use of Personal Protective Equipment's (e.g. gumboots, goggles, head cover etc)	90.48	81.35
b)	There are regular healthy and safety trainings when starting a new job (induction), changing job (transferred), new equipment's bought or introduce new technology	76.19	72.88
c)	Employees are able to apply the new skills and knowledge acquired during safety training	85.71	77.97
d)	Inexperienced machine operators work under supervision	76.19	74.57
e)	When workers are trained cost implications (e.g. fines, compensation, loss of revenue) reduce and they become more motivated thus require less supervision and guidance on safety and health matters	52.38	81.35
f)	I have the knowledge I require to respond to any Safety and Health concern at my workplace	85.71	76.27
g)	All employees are well-versed on action to take in case of emergencies	66.66	59.32
	% Mean	76.19	74.82

Source: Author, 2020

Based on the findings shown in Table 4.39, all the parameters tested were scored more than 57% with New KCC scoring better (82.93%) than Daima (75.02) in average as per the Table 4.40.

Table 4.40: Average ratings on staff participation by respondents

Parameters	Daima %	New KCC %
1 -Likert scale on OSH awareness	85.04	80.39
2- Presence of trainings	80.95	91.53
3- Varieties of trainings	88.89	100
4- Trainings once or twice per year	42.86	57.63
5- Effectiveness of the trainings	76.19	93.22
6 -Likert Scale scores	76.19	74.82
Mean Score	75.02	82.93

Source: Author, 2020

This confirms that there was a significant relationship between staff training and OSH practices. The null hypothesis is hereby rejected.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter covers the summary, conclusions and recommendations of the study. The chapter is organized according to the specific objectives of the study.

5.2 Summary of findings

The main purpose of the study was to determine the factors that influence OSH practices at New KCC Dandora Factory and Daima Dairy with the aim of making comparisons between the two organizations. The study was guided by three specific objectives which were: to establish to what extent the protection of staff from hazards influences OSH practices at New KCC Dandora Factory and Daima Dairy; to determine to what extent staff participation influences OSH practices at New KCC Dandora Factory and Daima Dairy; and to assess the extent to which staff training influences OSH practices at New KCC Dandora Factory and Daima Dairy. The study employed cross-sectional comparative case study research design and the data collection triangulation method where there was use of a standard questionnaire, checklist for observation and interview. Data collected was converted into percentages for comparison purposes.

To get the feel of the population in the two organizations, demographic data was collected on sex, age, level of education, engagement terms, position of respondent in the organization, department and years the respondent had served the organization. It was noted New KCC had engaged more educated members of staff with masters/postgraduate diplomas, more staff were on permanent engagement and had served the organization for longer as compared to Daima. There were similarities noted on sex and departments of the respondents. Overall the population in the two organizations was not very different.

In relation to the level of OSH awareness, the study established that majority of the respondents at the two organizations had either been involved in or knew a colleague who had been involved in an accident, injury or illnesses related to OSH. The respondents identified the three common nature of injuries at both organizations in order of frequency as musculoskeletal disorders caused by

standing/sitting for long, worker's negligence, inappropriate work methods; followed by loss of body part caused by machine faults, chemical splash, workers' incompetence, slips/falls; and thirdly loss of hearing caused by noise levels. Comparatively, however, Daima recorded higher musculoskeletal disorders while New KCC recorded higher slip/fall causes due to maintaining the floor wet most of the time as observed by researcher during site visits. Staff at New KCC were making use of their workers' union to ensure safety and health issues are handled more seriously by management which was not the case at Daima because they were not allowed to join/form a staff union. In both organizations it was however noted compensation of injured was very low at less implying laxity by the DOSHS office in following up compensations according to WIBA 2007. Respondents confirmed that they were familiar with OSHA 2007 and health safety policy which were signed by Managing Directors at both organizations. The respondent to a high extent knew their rights and responsibilities as outlined by OSHA 2007 and knew who to report to in cases of injuries/accidents. They also confirmed that employer respond effectively to accidents and whenever there are complaints regarding health and safety, they are promptly handled.

In line with the first objective of the study which was to establish the extent to which staff are protected from hazards and how this influenced OSH practices at New KCC Dandora Factory and Daima Dairy, it was noted that the most common measures put in place by both sites after exhausting elimination and substitution methods were organizations process control, administrative or work practice controls and provision of appropriate protective gear. The respondents from both sites scored safety measures in place as either good, very good or excellent and also confirmed that protective gear required to ensure safety were provided. The management of both organizations had complied with statutory and regulatory requirements i.e. valid registration of workplace permits, city council fire prevention clearance certificates, dairy board permits, food drugs and chemical substances permit, public health permits as well as NEMA reports. Respondents at both sites also highlighted that safety and health was considered crucial, a fact confirmed by adequate budget allocations. Both sites were securely fenced and there was controlled access by security guards. At the entrance temperature screening and hand sanitization was maintained in line with the WHO and the Ministry of Health protocols for COVID 19. The hazardous machinery like steam boilers, air receivers and forklifts were inspected as required by OSHA 2007, stairs cases put hand rails and electrical safety ensured through securing the generators, use of signage where there were high voltages and insulation.

To protect staff from illnesses, staff were provided with welfare provisions highlighted by OSHA 2007 sections 91 to 95 i.e. supply of wholesome drinking water, washing facilities, accommodation for clothing, facilities for sitting and First-Aid respectively. There were also health provisions as required by section 48 to 52 of OSHA 2007 i.e. adequate working space, ventilation, lighting, drainage of floors and sanitary conveniences respectively. There were observed high levels of personal hygiene where staff were clean and in clean clothing. On environment hygiene, there were strategically positioned receptacles (dustbins) that were covered and frequently emptied. For pest control services and garbage disposal services, they were outsourced and found effective as no pest were sighted at the premises. There were also health beaks and medical examination.

In line with the second objective which was to determine to what extent staff participation influences OSH practices at New KCC Dandora Factory and Daima Dairy, it was established that on average there was higher level of staff participation at New KCC which was attributed to the presence of a safety and health officer, OSH representatives at the work stations known by staff, an active Safety and Health committee and the frequent review of the Health and safety policy that was fairly well communicated and understood by staff. On the other hand, at Daima, as confirmed during interview, most of the respondents were not aware of who the members of safety and health committee were, nor was there a designated leader at the time of research and the OSH policy had not been reviewed since 2011. In both organizations, the rate of reporting incidents likely to cause injury/accident(s) was high. However, the level of satisfaction on action taken after reporting was higher at New KCC. It was noted that when staff are injured, there was administration of first aid followed by facilitating transport to hospital for further medical checkup. Management commitment was further noted through evaluation of the performance of the Safety and Health system annually through the self-audits as required by OSHA 2007, complying with statutory and regulatory requirements. Most of the respondents in both organizations confirmed they had participated in a meeting/forum/discussion regarding safety and health at their workplace.

In line with the third objective which was to assess the extent to which staff training influences OSH practices at New KCC Dandora Factory and Daima Dairy, it was established that there are trainings/awareness related to OSH which mostly last from an hour to seven days. The most common training in both organizations were first aid and fire safety while the other trainings included machine/plant safety, electrical safety, workplace hazards, protective gear, OSH training,

HIV/AIDs and drug/substance abuse. At Daima there was noted laxity on frequency of trainings since the last training was done in 2013 as per respondents and most respondents were of the view that there are no routines for training rather they are offered randomly and not offered equally to all while at New KCC there were efforts to offer trainings yearly and as a result New KCC respondents' confirmed on presence of training at higher rate than Daima. Most respondents confirmed they had received training on proper use of protective gear and whenever there are new machine operators, they work under supervision until they learn to operate machines safely. It was confirmed by those who had attended the trainings that they were effective in helping them to be safer at the workplaces at both sites. Staff trained confirmed that the training helped reduce cost implications related to OSH, motivate staff to work more safely and as a result require less supervision and guidance on safety and health matters.

5.3 Conclusions

From the findings discussed in chapter four, it can be concluded that protection of staff from hazards, staff participation in OSH and staff training in OSH does influences OSH practices at New KCC Dandora Factory and Daima Dairy although to varying extents. In both organizations management had put measures in place to ensure that staff were protected from hazards to ensure their health and safety. This was highly rated by the respondents from both sites. In both organizations staff were provided with adequate protective gear like gumboots, dust coats, ear muffs, safety boots, eskimo aprons, helmets, googles and gloves. The management of both organizations had complied with statutory and regulatory requirements to ensure that staff were well protected from hazards. There was evidence of valid registration of workplace permits, city council fire prevention clearance certificates, dairy board permits, food drugs and chemical substances permit, public health permits as well as NEMA reports. Both sites were securely fenced and there was controlled access by security guards and the WHO and Ministry of Health protocols for COVID 19 were enforced. Hazardous machinery like steam boilers, air receivers and forklifts were adequately protected and secured. To ensure the health of staff the organizations had endeavored to provide them with drinking water, washing facilities, accommodation for clothing, facilities for sitting and First-Aid adequate working space, ventilation, lighting, drainage of floors and sanitary conveniences respectively. They also ensured environmental hygiene by strategically

positioning receptacles (dustbins) that were covered and frequently emptied. Similarly, pest control services and garbage disposal services were provided.

On staff participation in OSH, New KCC performed better than Daima, in terms of health and safety committee being more active and working closely with staff as per questionnaire responses. However, at both sites, there was noted positive attitude towards health and safety by both management and juniors e.g. after staff reported incidents potentially unsafe, the management addressed the issues immediately to staff expectations. The health and safety committees however had relaxed and needed to be re-activated at Daima. It was noted to a large extent the employer and employees at both Daima and New KCC had done their responsibilities as outlined in OSHA 2007. At the time of research, Daima was developing a Food Safety Management System (ISO 22000:2018) where as New KCC had in place a Quality Management System (ISO 9001:2015) and a Food Safety Management System (ISO 22000:2005 on transition to ISO 22000:2018) which were very helpful in meeting OSH requirements as it's a condition by both standards to comply with all statutory and regulatory requirements (including OSHA 2007). There was enough evidence to support that staff participation to a high extent influences OSH practices at New KCC Dandora Factory and Daima Dairy.

In terms of training, both organizations had embraced training of staff with most common topics being first aid and fire safety which lasted on average 1 hour to 3 days. For those respondents who had participated in the trainings, they confirmed that they were effective in helping them to be safer at work however the frequency of the trainings was a major concern that require to be addressed especially for the first aid which should be refreshed annually. New KCC performed better than Daima on training varieties, frequencies as well as effectiveness of the training. There was enough evidence to confirm staff training to a large extent influences OSH practices at New KCC Dandora Factory and Daima Dairy. However, unlike the survey done in the United Kingdom on behalf of SGS in 2018 (www.shponline.uk), where the conclusion was that private sector prioritize safety and health matters than public sector was not the case in this research. It was vice versa since New KCC (public) was at par with Daima dairy (private) on staff protection, performed better on staff participation and staff training as per the research objectives.

5.4 Recommendations

Based on the findings, the study makes the following recommendation that:

- i) All organizations should stop relying on registration of workplace permits issued by DOSHS to gauge compliance to OSHA 2007 to assure safety of workers. The two sites of study had valid registration of workplace permits, however, there were still recorded accidents/injuries related to OSH because compliance (permits) are issued based on meeting minimum requirements. The study therefore recommends that all organizations should go a step further and ensure application of best practices program which is a proactive approach.
- ii) Organizations should look into implementing international management systems especially Occupational Health and Safety Management System (ISO 45001) which will help the organizations raise their standards of health and safety.
- iii) The researcher noted employing staff on permanent terms has an impact on improved OSH practices since staff are allowed to form union (as per labor laws) where they raise their concerns including OSH matters like provision of protective gears, off days, leave days, sick off among others. This was missing at Daima where more staff were employed on contract. As such, the researcher recommends having staff unions or platforms at workplaces to help workers push for safety and health requirements at workplace.
- iv) Since enactment of OSHA 2007, Daima Dairy and New KCC Dandora Factory had never been visited by OSH officers which is a requirement of the OSHA 2007 as per the interviews data collected from key respondents. This calls for DOSHS to increase their presence at workplaces through spot checks on compliance status and stop waiting for fatal accidents to show up.
- v) There is need to conduct mandatory medical examination of all staff working at hazardous work environments and carry out awareness because staff were confusing it with examination for food handlers. It's a requirement in OSHA 2007 clause 103 (3a) to conduct medical examination of the employees before they are employed, during their employment, and after the termination of their employment at the cost of the employer.

- vi) There is urgent need to conduct emergency preparedness test procedures for the health and safety measures in place especially annual fire drill where records were missing in both sites as outlined in the “The Factories and Other Places of Work (Fire Risk Reduction) Rules, L.N. 59 of 2007”
- vii) On staff participation in OSH the researcher recommends that there should be increased monitoring/evaluation of the safety and health program performance and coming up with recommendations for continuous improvement regularly (quarterly or biannually) by stoppage of reliance on the OSHA 2007 yearly self-audit reports requirements.
- viii) Training needs analysis should be done to enable management to know the areas training is required then follow up by carrying out effectiveness of the trainings. At the time of research, there were no records maintained at Daima and New KCC on training needs analysis or training impact assessment related to OSH.
- ix) There should be scheduled refresher/regular safety and health related trainings/awareness/sensitization of all workers on varieties topics including OSH trends (for the health & safety committee members), Fire Safety (annually for fire marshals), First Aid (annually for first aiders), electricity safety, proper use of PPEs, chemical safety and new health/safety hazards whenever there’s adoption of new technology. Those who attend such trainings should be assigned responsibilities in order to apply skills acquired. There should also be displayed visual safety and health pictorials to sensitize workers at their workplaces which were missing at both sites.

5.5 Suggestions for future research

There is need to conduct similar comparative research on organizational factors influencing OSH practices in the other food industries like maize millers, fruits processors and bakery industries which are unique and consider other factors like leadership and organizational culture.

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APPENDICES

Appendix 1: Research plan

March 2020	April 2020	May 2020	June 2020	July 2020	August 2020	September 2020	October 2020	Nov 2020	Dec 2020	Jan 2021	Feb 2021	March 2021
Research proposal development and defending												
			Data Collection analysis and evaluation									
						Report writing						
											Presentations of findings	

Appendix 2: Sample of authorization letter to conduct field research



University of Nairobi
COLLEGE OF HUMANITIES AND SOCIAL SCIENCES
Department of Political Science & Public Administration

Telegrams: "Varsity", Nairobi
Telephone : 318262 ext 28171
Telex: 22095 Varsity
Email : dept-pspa@uonbi.ac.ke

P.O. Box 30197
Nairobi, Kenya

9/9/2020

TO WHOM IT MAY CONCERN

AUTHORIZATION TO CONDUCT FIELD RESEARCH

This is to confirm that Danson Mwangi Nyambura of Registration Number (C51/12483/2018) is a bonafide student at the Department of Political Science and Public Administration, University of Nairobi.

Danson is pursuing a Degree in Master of Public Administration. He is researching on, **"Organizational Factors Influencing Occupational Safety and Health Practices: A comparative Study of New Kenya Cooperative Creameries and Daima Dairy."**

He has successfully completed the first part of his studies (Coursework) and is hereby authorized to proceed to the second part (Field Research). This shall enable the student to collect relevant data for his academic work.

It is against this background that the Department of Political Science and Public Administration, University of Nairobi requests your assistance in enabling the student in collecting relevant academic data. The information obtained shall be used specifically for academic purpose.

The student is expected to abide by your regulations and the ethics that this exercise demands. In case of any clarification please feel free to contact the undersigned.

Thanking you for continued support.

Yours Sincerely,



Professor Fred Jonyo
Chairman,
Department of Political Science and Public Administration

Appendix 3: Introduction letter

UNIVERSITY OF NAIROBI INTRODUCTION LETTER

Dear Sir/Madam

RE: RESEARCH

I am a student at University of Nairobi pursuing Masters Degree in Public Administration. As a partial fulfilment of the requirements for the award of the Masters degree, I am carrying out a comparative research study on factors influencing Occupational Safety and Health practices at the NEW KCC Dandora Factory and Daima Dairy.

I will avail any other details concerning my research on request. All information gathered from this research will be for the only purpose of research and will be strictly confidential.

I am kindly requesting your assistance.

Yours faithfully,

Danson Mwangi

Appendix 4: Sample questionnaire



UNIVERSITY OF NAIROBI

INTRODUCTION LETTER

Dear Respondent,

RE: MPA RESEARCH PROJECT

I am a student at University of Nairobi pursuing a Master of Public Administration. As a requirement of the course, I'm carrying out a research study on 'Factors influencing Occupational Safety and Health practices'. You have been selected to take part by answering the accompanying questionnaire.

All your responses will be held in confidence. The information gathered from this research will be for academic purposes only and under no circumstance will your name be mentioned in the report.

Thanks in advance,

Yours sincerely,

Danson Mwangi

RESEARCH QUESTIONNAIRE

Instruction:

- i) All the responses are anonymous and you should not indicate your name.
- ii) There are no right or wrong answers. For each question, please indicate the response option you feel best answers the question. (You can use DK/NA to stand for Don't Know/Not Applicable)
- iii) Kindly answer each question carefully by filling on the space provided and/or checking on the box as appropriate using X or tick.
- iv) If your reply is by email, to mark your answer please right click in the box, click format shape, fill, solid fill and colour as black then okay

Section A: Demographic Information

1. Organization _____
2. Type of ownership: Private _____ Public Cooperative Other: _____
3. Sex: Male Female
4. Age bracket:
18 – 25 years 26 – 35 years 36 – 45 years
46 – 55 years 56 – 60 years Above 60 years
5. Level of education
Primary Certificate Higher Diploma Bachelor's Degree
Secondary Diploma Post graduate Diploma Master's Degree
Others specify _____



6. Engagement: Permanent Contract Other Specify: _____
7. Position: Top Management Middle Level management Supervisory
 Junior staff General Hand Others specify: _____
8. Department: Quality Production Engineering Security
 Sales and marketing Logistic and Inventory Human Resource
 Information and Technology Other specify: _____
9. How many years have you served the organization/company?
- 1 month – 2 years 3 – 5 years 6 – 10 years
 11 – 15 years 15 – 20 years Above 20 years

Section B: Occupation Safety and Health awareness

10. Have you or any of your colleague ever been involved in an occupation safety and health related accident, injury or illness? Yes No
11. If yes, what was the nature of the injury, accident or illness?
- Musculoskeletal disorders (e.g. back, joints and muscle pain)
 Work related cancers Loss of hearing Loss of sight
 Skin diseases Mental health disorders Loss of part of the body
 Stress disorder Others (specify) _____
12. In your view, what was the cause of the injury/accident/illness?
- Light Noise Chemical splash Machine fault Low/High Temperature
 Electrical Sitting/standing for long Environment Slip/Fall Fire/Smoke
 Workers incompetence Workers Negligence Inappropriate work method
 Others (specify) _____
13. Did you or your colleague receive compensation for the injury? Yes No
14. In your view, how could the accident, injury or illness have been prevented?
- _____
- _____
15. How long were you or your colleague unable to work or assigned light duties? 1 – 3 days
 4 – 7 days 2 – 4 weeks 2 – 6 months 7 months – 1 year Other specify _____

16. Kindly use ‘X’ or tick under the heading you perceive the statements are applicable

		Strongly Agree (5)	Agree (4)	Neither agree nor disagree (3)	Disagree (2)	Strongly Disagree (1)
a)	I am familiar with Occupational Safety and Health Act of 2007					
b)	I am familiar with the organization’s occupational Safety and Health policy					
c)	I know my rights and responsibilities regarding Safety and Health					
d)	I know how to perform my job safely (which precautionary measures to take to protect myself at work)					
e)	In case of an accident or a health related problem I am clear on who to report to					
f)	My employer responds effectively to accidents					
g)	Employees complaints regarding safety and health are handled promptly					

Section C: Staff protection from Occupation Safety and Health hazards

17. How would you rate safety measures put in place to protect workers at your workplace? Very Poor

Poor Average Good Very good Excellent

18. Has your employer provided you with the resources you require to be safe at work? Yes No

If no, what do you require to be provided _____

19. How does provision of protective gear influence implementation of Occupation Safety and Health practices at your workplace _____

20. What can cause staff not to wear Personal Protective Equipment’s (e.g. gumboots, goggles, gloves, helmet etc.) when already provided _____

21. Kindly use 'X' or 'tick' under the heading you perceive the statements are applicable

		Strongly Agree (5)	Agree (4)	Neither agree nor disagree (3)	Disagree (2)	Strongly Disagree (1)
a)	Safety and Health at my workplace is considered as crucial to the success of the organization					
b)	Safety in working area has been ensured through proper ergonomics (comfortable sitting facilities, furniture arrangement and working position)					
c)	Where there are hazards (e.g. noise, dust, high/cold temperatures etc.) supervisors implement job rotation.					
d)	There is maintenance of personal hygiene and clean work environment at my workplace					
e)	My job allows for adequate health breaks.					
f)	The organization is well prepared to handle medical emergencies i.e. there are equipped first aid boxes, trained first aiders, fire marshals and working fire alarm					
g)	Medical examinations are carried out regularly for those people who work in hazardous stations					
h)	There are annual fire drills to test emergency preparedness at my workplace					
i)	The organization provides basic workplace amenities as required by law e.g. toilets, bathrooms, drinking water, personal storage and washing facilities					

Section D: Staff Participation in Occupation Safety and Health

22. Have you ever reported an incident likely to cause injury or accident to your supervisor for preventive measures to be taken? Yes No

a) What was the incident you reported? _____

b) In reference to action taken (or not taken), were your expectation(s) met? Yes No

c) If no, what action would you have preferred _____

23. Kindly use 'X' or tick under the heading you perceive the statements are applicable

		Strongly Agree (5)	Agree (4)	Neither agree nor disagree (3)	Disagree (2)	Strongly Disagree (1)
a)	I have participated in a meeting/discussion/forum about occupation safety and Health at my workplace					
b)	If I notice a workplace hazard, I can point out to management					
c)	There is an active Safety and Health committee at my workplace that assess working environment for hazards and continuously review accident prevention measures					
d)	Employees cooperate with safety & health committee and are free to report any possible hazards especially areas or equipment requiring repairs/maintenance					
e)	There is regular communication between employees and management and both participate in deliberating safety and health issues at my workplace					
f)	There are formulated guidelines for all staff and procedures to be used by employees when at work to ensure their safety as well as safety of their colleagues					

Section E: Staff Training on Occupation Safety and Health

24. In your opinion, are there awareness sensitization/training on occupation Safety and Health carried out by your organization? _____

25. Which training on safety and health have you participated (you can check more than one)

First Aid HIV/AIDS Drug and Substance Abuse
 Fire safety Machinery/Plant safety Electrical Safety
 Workplace Health Hazards Personal Protective Equipment Others (Specify) _____

26. Training duration? 1 hour - 1 day 2 - 3 days 4 - 7 days
 8 days - 1 month 2 - 6 months 7 months - 1 year Others specify _____

27. How often are training and sensitization on occupation safety and health done at your workplace?

Once per year Twice in a year No routine Never trained Others (Specify) _____

28. In your view, was the training effective in helping you with issues related to occupation safety and health? Not effective at all Slightly effective Somewhat effective
 Very effective Extremely effective Don't know

29. Kindly use 'X' or tick under the heading you perceive the statements are applicable

		Strongly Agree (5)	Agree (4)	Neither agree nor disagree (3)	Disagree (2)	Strongly Disagree (1)
a)	I am trained on proper use of Personal Protective Equipment's (e.g. gumboots, goggles, head cover etc.)					
b)	There are regular healthy and safety trainings when starting a new job (induction), changing job (transferred), new equipment's bought or introduce new technology					
c)	Employees are able to apply the new skills and knowledge acquired during safety training					
d)	Inexperienced machine operators work under supervision					
e)	When workers are trained cost implications (e.g. fines, compensation, loss of revenue) reduce and they become more motivated thus require less supervision and guidance on safety and health matters					
f)	I have the knowledge I require to respond to any Safety and Health concern at my workplace					
g)	All employees are well-versed on action to take in case of emergencies					

30. Give suggestions on how best the Safety and Health of staff can be improved in your workplace

The end