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Occupational Safety and Health Awareness among Factory Workers of the Kenya Tea Development Agency in Region Five

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Abstract
Tea industry is the largest employer in the private sector with over 80,000 working in the estate and 3 million earning their livelihoods from the sector. The main risks posed by workers at tea factories are from unguarded machinery, chemical and biological agents as well as unfavourable working conditions like high temperatures. The objective of the current study was to determine the level of occupational safety and health awareness among workers of Kenya tea development agency factories in region five. The study sites were Kapkoros Tea factory, Tirgaga Tea factory, Mogogosiek Tea factory, Kapset Tea factory, Litein Tea factory, Momul Tea factory and Toror Tea factory. The study employed a descriptive design which used probability sampling methods to select 260 participants. Structured questionnaires were used to collect qualitative data which was analyzed using statistic package for social scientist. Of the total respondents 46.7% had secondary school education and below while the remaining 51.2% had college education and above. The factory staffs were found to be aware of occupational safety and health issues in their respective factories except that they were not aware of emergency procedures in case of fire. Most of the staff in the seven tea factories reported to have been exposed to hazards such as dust, injuries and high noise levels.
Keywords:occupational safety, awareness, emergency procedures, risks.

Introduction

Tea is a major cash crop that is grown in Kenya. In Kenya tea is ranked as the third major foreign exchange earner, behind tourism and horticulture. The industry is the largest employer in the private sector with over 80,000 working in the estate and 3million earning their livelihoods from the sector KTDA report, (2003). Tea is an indispensable beverage used the world over and is brewed from the tea plant *Camellia sinensis.* Manufacture of black tea involves several labour intensive processes. Like in any other employment sector, workers in the tea factories run an equal if not higher risk of being injured as a result of the type of work they do. The main risks posed are from unguarded machinery in the factory, chemical, and biological agents as well as unfavourable working conditions like high temperatures. According to a study by Dey *et al.,* (2012), Safety and health of workers in tea production is traditionally regarded as an extraneous obligation that offsets productivity improvements. The tea industry faces challenges in ensuring occupational safety and health because of the management's mindset of accepting safety as a liability to the business and the lack of safety awareness amongst the workers. According to a study done by Castellan *et al*., (1981), Sifting and blending are the dustiest processes in the tea industry and the workers involved are exposed to the hazard of inhaling the dust. Inhalation of tea dust is known to give rise to both acute and chronic respiratory symptoms. Muchemedzi and Charamba (2006) reported that accidents do not arise from a single cause but from a combination of factors which act simultaneously. A potentially unsafe situation does not cause an accident until someone is exposed to it. Accidents are caused by the result of unsafe acts or practices (the human element that results from poor attitudes, physical conditions and lack of knowledge or skills to enable one to work safely). They are also caused by the result of unsafe conditions of equipment or materials. According to Oxenburgh *et al*., (2004), the health and safety of all employees is closely linked to the company's productivity in all workplaces. In most cases, occupational safety and health (OSH) is largely measured by negative outcomes such as workplace injury and illness but these measures have a shortfall, for instance, a low incidence of injury does not necessarily mean that adequate safety systems and controls are in place Health Safety Executive, (2006). At some tea processing factories, attention is mainly on negative outcomes. As long as there are no serious accidents, occupational health and safety policies and practices are not carried out fully. As a result, threats to employees' safety are not eliminated in time because accident-prone areas are not recognized and taken care of before accidents occur. It is therefore important that the conditions that pose threat to the safety and health of the workers are identified and addressed. The objective of the current study was to determine the level of OSH awareness among workers of KTDA factories in region five.

Materials and methods

Study design

A descriptive cross sectional study design was employed for this study because the research was a fact finding survey and this type of research design is the most recommended Wiegmann *et al*., (2007).

Study site

The study was done at seven selected tea processing factories in region five as per KTDA clustering. Region five involves Kericho and Bomet counties which has a total of 12 tea processing factories. Kericho County is in western part of Kenya approximately 280 Km south east of Nairobi. It has 6 KTDA factories. Bomet County is approximately about 255km South East of Nairobi and has 6 KTDA factories.

Study Population

There are twelve tea processing factories in this region employing more than 1800 workers which were considered in the study. Workers who participated in this study were chosen from seven selected tea factories. The management team which comprised of managers, supervisors and safety and health officers were sampled as category one. The second category included workers in different departments like withering, sorting, packing, billeting, ctc and workshop.

Sample size determination

Estimation of sample size in was based on Krejcie and Morgan (1970) formula as below:

$s = X^2NP(1-P) \div d^2(N-1) + X^2P(1-P)$

$= 3.841^2 800 \text{ x } 0.5(1\text{-}0.5)/0.05^2(800\text{-}1) + 3.841^2 0.5(800\text{-}1)$

$=260$

Sampling method

Purposive sampling was used to choose the seven companies that were sampled in the study. The tea processing factories were clustered in terms of departments/units and in each cluster, simple random sampling method was used to select the study participants. The clusters were the management team, technical, packaging, loading and the workshop.

Data collection tools

Questionnaires

Closed ended questionnaires were used to collect wide array of first hand information using a five point Likert Scale to address the respondents' perception of the safety and health systems in the tea factories. The questionnaire items were put on a 5-point Likert scale ranging from 1 (strongly disagree), 3 (unsure) to 5 (Strongly agree) Gibbons *et al*., (2006). A total of 260 questionnaires were distributed.

Secondary data

This data was collected through scrutiny of documents e.g. General Registers, Health and Safety policies, various statutory audits and other safety and health literature.

Study Procedure

The factory unit manager was approached by the principal investigator and the overall objective of the study explained to obtain consent. Information was passed to the participants who included staff in management, packaging, loading, withering, sorting, billeting and workshop for them to participate in the study. The study participants were then approached and explained to about the study. When the participant accepted to volunteer for the study, he then provided his name and signed the consent form provided by the investigator.

Data analysis

Statistical Package for Social Scientists version15 was used for advanced analysis.

Pearson chi square was used to test the P values and show if there was significant relationship between the variance used.

Results obtained were presented in tables, and figures

Results

Study participants

A total of 260 respondents (factory staff) were given questionnaires on evaluation of occupational safety and health awareness and practices from seven tea factories namely; - Tirgaga Tea Factory Company limited, Kapkoros Tea Factory Company limited, Mogogosiek Tea Factory Company limited, Kapset Tea Factory Company limited, Litein Tea Factory Company limited, Momul Tea Factory Company limited and Toror Tea Factory Company limited. The respondents were factory staff from the following departments; - withering, driers, workshop, sorting, packing, boiler, billeting, Quality control and stores. There was no significant association between the two Counties in terms of OHS awareness and practice ($p>0.05$) and also among the factories per County (Table 1).

Table 1: Distribution of tea factories in Kericho and Bomet County

County	Factory:	Male (%)	Female (%)	Total (%)	χ^2	p-value
Kericho	Litein tea factory	42.9	27.3	39.6	1.51	0.470
	Momul tea factory co. Ltd	42.9	63.6	47.2		
	Toror tea factory	14.3	9.1	13.2		
	Total	100.0	100.0	100.0		
Bomet	Kapkoros tea factory co. Ltd	19.8	24.1	20.9	0.37	0.947
	Kapset tea factory co. Ltd	30.9	27.6	30.0		
	Mogogosiek tea factory co. Ltd	23.5	20.7	22.7		
	Tirgaga tea factory	25.9	27.6	26.4		
	Total	100.0	100.0	100.0		

A total of 42(39.6%) of the respondents who took part in the interview were from Litein Tea Factory, 50(47.2%) were from Momul Tea Factory Co. Ltd and 13(13.2%) were from Toror Tea Factory Co. Ltd. Total of 32(20.9%) respondents were from Kapkoros Tea Factory Co. Ltd, 47(30%) were from Kapset Tea Factory Co. Ltd, 34(22.7%) of them were from Mogogosiek Tea Factory Co. Ltd and 42(26.4%) of the remaining respondents were from Tirgaga Tea Factory Co. Ltd. The Pearson Chi-square test values $\chi^2_{(2)} = 1.51$, $p = 0.47$; $\chi^2_{(3)} = 0.37$, $p = 0.95$ and $\chi^2_{(6)} = 2.33$, $p = 0.89$. Since all the p values were greater than 0.05 therefore there was no statistical relationship between the counties, factories and the gender of the employees. The resultant relationship was by chance.

Education level of the participants

Education level of the participants was categorized as primary school, secondary school, College and University. Five (1.8%) workers had primary level of education, 121(46.7%) had secondary school education, 104(40.1%) had college education and 30(11.4%) had reached university as their highest educational level attained.

Table 2: Educational level of the respondents

Level of education	Male (%)	Female (%)	Total (%)	χ^2	p-value
Primary	1.6	2.4	1.8	0.82	0.85
Secondary	48.0	42.9	46.7		
College	38.4	45.2	40.1		
University	12.0	9.5	11.4		
Total	100.0	100.0	100.0		

The Pearson Chi-square tests value of $\chi^2_{(3)} = 0.82$, $p = 0.85$. Since the p-value is > 0.05, thus there is no significance association between the two variables (educational level and gender of the participants). The male participants were high in all the factories sampled.

Education level of employee verse the department

Primary school Education; 2(33.3%) of the staffs with primary school education were working in the sifting section against 3(66.7%) who were working in the withering section. Secondary Education; 8(6.6%) staffs with secondary school education were working in the workshop sections, 16(13.2%) were working in sifting sections, 30(25%) were working in the withering sections, 27(22.4%) were working in the packing sections, 19(15.8%) were working in the billeting sections while the remaining 21(17.1%) were working in the other sections in their respective factories. College Education; 25(24.2%) staffs with college education were working in workshop sections, 5(4.8%) were working in the sifting sections, 10(9.7%) were working in the withering sections, 15(14.5%) were working in the packing sections, 9(8.1%) were working in the billeting sections while 40(38.7%) were working in other sections of their respective factories. University Education; 13(41.7%) of the staffs with university education were working in the workshop sections, 5(16.7%) were working in the withering sections, 3(8.3%) were working in the packing sections while the remaining 9(33.3%) were working in other sections of their respective factories as shown in Table 3.

Table 2: Education level verses the department of the employees

Level of education	Section of work	Male (%)	Female (%)	Total (%)	χ^2	p-value
Primary	Sifting	50.0		33.3	0.75	0.386
	Withering	50.0	100.0	66.7		
	Total	100.0	100.0	100.0		
Secondary	Work shop	8.6		6.6	14.15	0.015
	Sifting	13.8	11.1	13.2		
	Withering	17.2	50.0	25.0		
	Packing	25.9	11.1	22.4		
	Billeting	20.7		15.8		
	Other	13.8	27.8	17.1		
	Total	100.0	100.0	100.0		
College	Work shop	34.1		24.2	22.09	0.001
	Sifting		16.7	4.8		
	Withering	9.1	11.1	9.7		
	Packing	18.2	5.6	14.5		
	Billeting	11.4		8.1		
	Other	27.3	66.7	38.7		
	Total	100.0	100.0	100.0		
University	Work shop	55.6		41.7	4	0.261
	Withering	11.1	33.3	16.7		
	Packing	11.1		8.3		
	Other	22.2	66.7	33.3		
	Total	100.0	100.0	100.0		

The Pearson Chi-square tests value of $\chi^2_{(5)} = 14.15$, $p = 0.015$ and $\chi^2_{(5)} = 22.09$, $p = 0.001$. Since the probability is < 0.05, therefore the relationship between staffs' secondary and college education respectively, occupation and gender was statistically significant. Chi-square tests value of ($\chi^2_{(1)} = 0.75$, $p = 0.386$, $\chi^2_{(1)} = 4$, $p = 0.261$) were > 0.05, thus the relationship between staffs' primary and university education respectively, occupation and gender had no significant association.

Employee experience

In terms of work experience, 45(17.4%) of the staffs had worked for less than 1 year, 79(30.4%) had between 1-5 years of experience, 95(36.6%) had between 6-10 years of experience while the remaining 41(15.5%) had more than 10 years experience in their respective organizations

Occupational safety and health awareness among the respondents

Human resource departments (management)

In the human resource department, 1(3.8%) staffs strongly disagreed and disagreed, respectively that the companies had adequate health and safety policies, 1(4.4%) was uncertain, 9(64.4%) agreed while 3(23.8%) strongly agreed with the statement. One (1.9%) of the staffs in the human resource department strongly disagreed that employees understood the company's health and safety policies, 1(3.1%) disagreed with the statement, 1(4.9%) was uncertain, 8(59.3%) agreed while 3(30.9%) strongly agreed with the statement. One (2.5%) of the staffs in the human resource departments strongly disagreed that safety information was visible to all staffs, 1(6.2%) disagreed with the statement, 1(8%) was uncertain, 9(60.5%) agreed while 2(22.8%) strongly agreed with the statement. One (2.4%) of the staffs from the human resource departments strongly disagreed and disagreed, respectively that protective clothing were provided to all employees, 1(7.9%) was uncertain, 8(58.2%) agreed with the statement while 3(29.1%) strongly agreed with the statement. Five (32.9%) staffs from the human resource departments strongly disagreed that the floors were kept clean and dry to reduce chances of falls and slips, 6(45.6%) disagreed with the statement, 1(5.7%) was uncertain about the issue, 1(10.8%) agreed while 1(5.1%) strongly agreed with the statement. Three (19.9%) staffs from this these department strongly disagreed that there were adequate first aid kits and medical services, 6(44.7%) disagreed with the statement, 1(12.4%) was uncertain, 3(18%) agreed while 1(5%) strongly agreed with the statement. Three (24.1%) of the staffs from the HR departments strongly disagreed that employees were aware of safety measures in case of fire, 7(49.4%) disagreed with the statement, 1(9.5%) was uncertain, 2(13.3%) agreed while 1(3.8%) strongly agreed with the statement as shown in Table 4.

Table 3: Management understanding on OSH awareness in the factory

Status	Gender	Strongly disagree (%)	Disagree (%)	Uncertain (%)	Agree (%)	Strongly agree (%)	Total (%)	χ^2	p-value
The company has adequate health and safety policies									
	Male	4.9	4.1	3.3	63.9	23.8	100.0	3.46	0.484
	Female		2.6	7.9	65.8	23.7	100.0		
	Total	3.8	3.8	4.4	64.4	23.8	100.0		
Employees understand the company's health and safety policies									
	Male	2.5	4.1	3.3	62.8	27.3	100.0	8.31	0.081
	Female			9.8	48.8	41.5	100.0		
	Total	1.9	3.1	4.9	59.3	30.9	100.0		
Safety information is visible to all staffs									
	Male	3.3	5.7	8.2	62.3	20.5	100.0	2.94	0.568
	Female		7.5	7.5	55.0	30.0	100.0		
	Total	2.5	6.2	8.0	60.5	22.8	100.0		
Protective clothing are provided to all employees									
	Male	2.4	3.2	7.3	59.7	27.4	100.0	2.24	0.692
	Female	457		9.8	53.7	34.1	100.0		
	Total	2.4	2.4	7.9	58.2	29.1	100.0		

From the table, the Pearson Chi-square test values and p-value were as follows; $\chi^2_{(4)} = 3.46$, $p = 0.48$; $\chi^2_{(4)} = 8.31$, $p = 0.081$; $\chi^2_{(4)} = 2.94$, $p = 0.57$; $\chi^2_{(4)} = 2.24$, $p = 0.69$; $\chi^2_{(4)} = 2.04$, $p = 0.73$; $\chi^2_{(4)} = 5.68$, $p = 0.22$; $\chi^2_{(4)} = 2.44$, $p = 0.66$. Since all the p values were greater than 0.05, thus the relationship between human resource department and their status was not statistically significant.

Employee awareness of occupational safety and health in the factories

General employees OHS awareness and practice was as follows; 7(3%) of the factory staffs strongly disagreed that there were safety signs and symbols in the factory, 11(4.3%) were uncertain, 161(65.2%) agreed while 67(27.4%) strongly agreed with the statement. About legislation applicability to factory and health safety; 7(3.1%) staffs strongly disagreed that in the factory there were legislation applicable to the factory safety and health committee, 3(1.3%) disagreed with the statement, 23(9.4%) were uncertain, 158(64.2%) agreed while 54(22%) strongly agreed with the statement. On OSH awareness; 6(2.5%) of the staffs strongly disagreed that the factory staff were aware of OSH policy and content of the policy, 2(0.6%) disagreed with the statement, 46(18.8%) were uncertain about the issue, 154(62.5%) agreed while 38(15.6%) strongly agreed with the statement. On manuals and safety guidelines documents; 11(4.3%) staffs strongly disagreed that manuals or guideline documents on safety were available to all staffs, 44(18%) disagreed with the statement, 58(23.6%) were uncertain, 95(38.5%) agreed while 38(15.5%) strongly agreed with the statement. On training; 3(1.2%) staffs strongly disagreed that there were employee health and safety induction training in the factory, 15(6.1%) disagreed with the statement, 24(9.8%) were uncertain, 149(60.7%) agreed while 54(22.1%) strongly agreed with the statement. Six (2.5%) of the staffs strongly disagreed that support staff received refresher occupational safety and health training, 14(5.6%) disagreed with the statement, 24(9.9%) were uncertain, one 49(60.5%) agreed while 53(21.6%) strongly agreed with the statement. Three (1.3%) staffs strongly disagreed that the factory had trained first aiders, 8(3.1%) were uncertain, 147(59.75) agreed while 88(35.8%) strongly agreed with the statement. On accidents; 6(2.4%) of the staffs strongly disagreed that the procedures for recording and reporting accidents were available, 12(4.9%) disagreed with the statement, 14 (5.5%) were uncertain, one 27(51.8%) agreed while 88(35.4%) strongly agreed with the statement (Table 5).

Table 5: Employee understanding on OSH management

Status	Gender	Strongly disagree (%)	Disagreed (%)	Uncertain (%)	Agree (%)	Strongly agree (%)	Total (%)	χ^2	p-value
There are safety signs and symbols in the factory									
	Male	3.3		4.9	67.2	24.6	100.0	2.25	0.523
	Female	2.4		2.4	59.5	35.7	100.0		
	Total	3.0		4.3	65.2	27.4	100.0		
In the factory there's legislation applicable to the factory safety and health committee									
	Male	3.4	.8	10.9	63.0	21.8	100.0	1.94	0.747
	Female	2.5	2.5	5.0	67.5	22.5	100.0		
	Total	3.1	1.3	9.4	64.2	22.0	100.0		
The factory staff are aware of OSH policy and content of the policy									
	Male	2.5	.8	20.8	61.7	14.2	100.0	2.15	0.708
	Female	2.5		12.5	65.0	20.0	100.0		
	Total	2.5	.6	18.8	62.5	15.6	100.0		
Manual or guideline document on safety is available to all staffs									
	Male	5.0	19.8	22.3	38.8	14.0	100.0	2.36	0.670
	Female	2.5	12.5	27.5	37.5	20.0	100.0		
	Total	4.3	18.0	23.6	38.5	15.5	100.0		
There's employee health and safety induction training in the factory									
	Male	1.6	7.4	7.4	63.9	19.7	100.0	6.93	0.140
	Female		2.4	17.1	51.2	29.3	100.0		
	Total	1.2	6.1	9.8	60.7	22.1	100.0		
Support staff receive refresher occupational safety & health training									
	Male	3.3	7.4	9.1	59.5	20.7	100.0	4.98	0.290
	Female			12.2	63.4	24.4	100.0		
	Total	2.5	5.6	9.9	60.5	21.6	100.0		
The factory has trained first aiders									
	Male	1.7		4.2	58.8	35.3	100.0	2.46	0.482
	Female				62.5	37.5	100.0		
	Total	1.3		3.1	59.7	35.8	100.0		
Procedures for recording and reporting accidents are available									
	Male	3.3	5.7	6.5	49.6	35.0	100.0	3.42	0.490
	Female		2.4	2.4	58.5	36.6	100.0		
	Total	2.4	4.9	5.5	51.8	35.4	100.0		

From the table, the Pearson Chi-square test and p-value were as follows; $\chi^2_{(4)} = 2.25$, $p = 0.523$; $\chi^2_{(4)} = 1.94$, $p = 0.747$; $\chi^2_{(4)} = 2.15$, $p = 0.708$; $\chi^2_{(4)} = 2.36$, $p = 0.670$; $\chi^2_{(4)} = 6.93$, $p = 0.140$; $\chi^2_{(4)} = 4.98$, $p = 0.290$; $\chi^2_{(4)} = 2.46$, $p = 0.482$; $\chi^2_{(4)} = 3.42$, $p = 0.490$. Since all the p values were greater than 0.05, thus the relationship between awareness of occupational safety and health management and their status was not statistical significant.

On OSH risks; 48 (19.5%) staffs strongly disagreed that the production departments were most at risk from occupational safety and health hazards, 70(28.6%) disagreed with this statement, 21 (8.4%) were uncertain, 72(29.2%) agreed while 35 (14.3%) strongly agreed with the statement.

Discussions

Participants characteristics

The education level of the participants was categorized as primary school, secondary school, college and university level. Most of the respondents (46.7%) had secondary school education, (40.1%) had college education level and (11.4%) had university level of education as their highest educational level attained. From a previous study some of the important demographic characteristics that were considered in the respondents included level of education, type of employment and gender Parker, (2007), Seixas, (2008), Carpenter, (2002). The current study found that (66.7%) of the respondents who had Primary school education, were working in the withering section and the rest in other sections. These was also the case with the respondents who had secondary education (25%) were working in the withering section and other sections, respectively. Most of the respondents who had college education, (24.2%) were working in workshop and other sections, respectively. Those who had university education, 41.7% of the respondents were working in the workshop section and others in the remaining sections, respectively. The Chi-square tests value of χ^2 (5) = 14.15, $p = 0.015$ and χ^2 (5) = 22.09, $p = 0.001$. Since the probability was < 0.05, therefore the relationship between staffs' secondary school and college

education level, respectively, occupation and gender was statistically significant. Asogwa, (1987) in his study found that accidents in workplaces are caused as a result of insufficient education, poor training or illiteration. Stranks and Dewis (1986) in their study also found that illiteracy is a major factor responsible for accidents in factories; they further noted that Knowledge and skill deficiencies are indirect causes of accidents in work place environment.

The current study found out that, (17.4%) of the respondents had worked for less than one year, (30.4%) had between 1-5 years of experience, (36.6%) had between 6-10 years of experience while the remaining 41(15.5%) had more than 10 years experience in their respective organizations. The Pearson Chi-square tests value of $\chi 2$ (3) = 2.83, p = 0.419. Since the probability was > 0.05, thus there was no relationship between staffs' work experience and gender. Flemming and Lardner (1999) in a similar study found that lack of knowledge and awareness contribute to 80-90% of industrial accidents. Sui (2003) in his study also found out correlation between safety attitude and the experience of the employee. The older person in a work place with more experience work more cautiously as compared to newly employed naïve individual.

Occupational safety and health awareness among the respondents

In this study, evaluation of occupational safety and health awareness of tea factories staff had not been performed for all the seven tea factories in region five. There was no data on levels of occupational safety and health awareness of factory staff in all the factories studied. Such baseline data are of utmost importance for meaningful planning of occupational safety and health procedures. Moreover there is a formal safety and health policy put in place by the factory management. The study also established that most workers of the seven tea factories are not aware of safety measures in case of fire. Management also agreed that there are inadequate first aid kits in their respective factories. The factory staffs in the seven factories received safety and health induction training, refresher training and also had access to manuals/guideline documents on safety. The factories have also posted safety signs and symbols; they have trained first aiders, procedures for reporting accidents are in place among other safety measures. This was also established in a study done by Health Safety Executive, (2006) and Hu *et al.,* (1998) where employers were concerned of their responsibility to post safety warnings, personal protection and providing safety and health equipment. The factories have provided enough toilet facilities, drinking water and a comfortable workroom temperature for their employees.

Conclusions

Over 80% of the respondents had secondary education and above. The staffs with primary education were working in either sifting or withering departments in their respective factories. Those with secondary and college education were working in workshop, sifting, withering, packing, billeting and other departments of their respective factories while those with university education were working in workshop, withering packing and other different departments. Educational level had significant association with knowledge and safety awareness ($p<0.05$).

Over 60% of the staffs had between 1-10 years of experience in their respective occupations in the factories. These experiences cut across all the levels of education of the staffs. Work experience had significant association with knowledge and safety awareness ($p<0.05$).

From the study on the awareness of occupational safety and health management, it was found that there are safety signs and symbols in the factory, the factory staff were aware of OSH policy and the contents. The employees undergoes through safety and health induction training. It was also found that all the seven factories have trained first aiders. The staffs in these factories have been taught on the procedures for recording and reporting accidents which occurs in their departments/sections.

From the study on occupational safety and health management, it was found that there was continuous review of accident prevention measures, various management forums are used to communicate occupational safety and health risks. Employees were also strongly encouraged to report unsafe conditions in the factory.

Recommendations

- Create awareness on the importance of safety and health in the work place by offering instruction and training. This will enable the workforce understand how to do their job without risks. This requires management commitment. This will assist to improve health and safety standards and increase productivity, efficiency and motivation throughout the workforce. It will also boost co-operation and trust between workers, managers and senior leaders.
- Provide information about safety and health during workplace induction, Involve workers in all matters which affect their health and safety at work. Consult regularly, even if it is informal, Arrange specific meetings for key issues such as high risk areas, proposed changes in the workplace and health surveillance issues, Arrange for health and safety to be part of other scheduled meetings (e.g. team meetings).

References

Asogwa, S. E., (1987). "Prevention of Accidents and Injuries in Developing Countries" *Ergonomics*, Vol. 30, No 2, 379-386,

Carpenter, W.S., Lee, B.C., Gunderson, P.D. and Stueland, D.T. (2002). Assessment of Personal Protective Equipment Use among Midwestern Farmers. *American journal of industrial medicine* 42:236–247.

Castellan RM, Bochlccke BA, Petersen MR, Thedell TD, Merchant JA (1981). Pulmonary function and symptoms in herbal tea workers. *Chest*; 79: 81-85.

Dey S.K., R.Gupta, (2012). Development of Safety and Productivity Correlation Model for Tea Industries of Barak Valley, Assam.

Fleming, M. and Lardner, R. (1999). Safety culture – the way forward. *The Chemical Engineer*, 16 – 18

Gibbons, A., Von Thaden, T., and Wiegmann, D. (2006). Development and initial validation of a survey for assessing safety culture within commercial flight operations. *The international journal of Aviation Psychology*, 16 (2), 214-238.

Health Safety Executive (2006) The Department of labour. Model for Business, Excellence. Government Printers: Harare. Koopman C,Pelletier RK, Murray JF, Sharda CE, Berger ML, TurpinP.

Krejcie and Morgan (1970). Determining Sample Size for Research Activities. Educational and Psychological Measurement, 30 (3), 607-610.

KTDA annual report, (2003). Kenya Tea Development Authority Annual Report. Government Printer.Nairobi.

Muchemedzi, S. and Charamba, L. (2006). National Health and Safety Training Course. NSSA. Harare.

Oxenburg M, Marlow P, Oxenburg A (2004). Increasing Productivity and Profitability through Health and Safety. The Financial Returns from a Safe Working Environment. (Second edition). CRC Press: London

Parker, D.; Brosseau, L.; Samant, Y.; Pan, W.; Xi, M. and Haugan, D. (2007), A comparison of the perceptions and beliefs of workers and owners with regard to workplace safety in small metal fabrication businesses. *American Journal of Industrial Medicine*. 50: 999- 1009.

Hu, S. C., C. C. Lee, J. S. C. Shiao and Y. L. Guo (1998). Employers' awareness and compliance with occupational health and safety regulations in Taiwan

Seixas, N.S.; Blecker, H.; Camp, J. and Neitzel, R. (2008). Occupational Health and Safety Experience of Day Laborers in Seattle, WA. *American journal of industrial medicine* 51:399–406.

Sui O.L. (2003). Age differences in safety attitudes and safety performance in Hong kong construction workers. Journal of safety research 34, 199-205.

Stranks, J., Dewis, M. (1986). Health and Safety Practice, Pitman Pub., Limited., London.
Successful Strategies in the Food Processing Industry.

Wiegmann, D.A., Thaden, T.L.V. & Gibbons, A.M. (2007). A review of safety culture theory and its potential application to traffic safety.

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