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An Assessment of the Factors Effecting the Occupational Health and Safety Practices – An Empirical Study in Ethiopian Flori Culture Industry

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Abstract

Horticulture is known as the science, innovation, and business which are associated with serious plant development for human utilization. It is finished by the person in a nursery and it's likewise performed by the global organization, which is exceptionally different in its exercises, consolidating plants for nourishment (natural products, vegetables, mushrooms, culinary herbs) and non-nourishment crops (blossoms, trees and bushes, turf-grass, jumps, restorative herbs). Floriculture or Flower cultivating which is a control in the field of agriculture worried about the development of blooming and fancy plants for gardens and for floristry, involving the flower business. The improvement plant reproducing of new assortments is a significant control of floriculturists (Dagnachew, 2014).

The bloom business is at present extending everywhere throughout the world. As indicated by the Journal of Environmental Health Perspectives, the horticulture business at present utilizes around 190,000 individuals all through the creating scene. Consistently, around 30 billion dollar is produced from the International blossom industry (EHP, 2002).

Keeping the Occupational Health and security (OHS) of representatives is one of the most significant part of human concern, OHS goes for an adjustment of workplace to labourers for the advancement and support of the most elevated level of physical, mental and social being of labourers in all occupations (Takele and Mengesha, 2006).

Nonetheless, Different examination's shows that the Importance of Occupational wellbeing and security rehearses are dismissed front. The gardening business in Ethiopia additionally in spite of its tremendous commitment

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to the national economy it is intensely condemned for infringement of Occupational wellbeing and security rehearses (Amman, 2011 and Wudineh, 2012).

So as to diminish the Occurrence of word related rates in the work place and to propose the proper worker wellbeing and security measures, first it is important to get to the representatives' wellbeing and wellbeing rehearses association under examination.

Keywords: *Horticulture; Floriculture; Plant reproducing; Environmental Health Perspectives; culinary herbs; restorative herbs; working condition; Occupational wellbeing and security rehearses.*

I. Introduction

The Floriculture business is one of the rising parts of the Ethiopian economy and is adding to the nation's national salary. Contrasted with different businesses, the horticulture business draws in enormous measure of remote direct speculation. Also, the industry has made openings for work for some individuals who might some way or another be jobless because of the work in progress of the Ethiopian economy (Mulu and Michiko, 2010).

The Ethiopian horticulture industry has been rising and its commitment to the national economy has gotten critical lately. In 2011/12, the nation has earned around 170 million USD by sending out more than 1.7 billion cut blossoms, created by 80 bloom ranches. Additionally, in excess of 350,000 individuals have profited by the agriculture where horticulture has the lions share. This is a major potential in procuring remote trade as well as in differentiating exportable items and opening tremendous openings for work (EHPEA and Beza, 2012).

The bloom generation utilizes various synthetic compounds like pesticides and bug sprays that can possibly cause brutal medical issue on labourers. The synthetic concoctions can mess skin up and other conceptive sickness, which can be dangerous to utensil's live (Tesfaye, 2012).

As indicated by an examination done by Tesfaye (2012) Employee related issues this implies disregarding wellbeing guidance, inappropriate utilization of defensive hardware and attire and going for broke combined with organization's disappointment in security correspondence and preparing add to expanded business wounds (in the same place).

related issues this implies absence of security guidance, deficient arrangement of individual defensive hardware (PPE) and offices, constrained follow up on the utilization of PPE and consistence to bloom ranches wellbeing techniques, for example, re-emergence rules to nursery following splashing, Absence of Medical offices and absence of preparing. An International Labor Organization (ILO) overview of the Ecuadorian bloom industry found that lone 22% of organizations prepared their laborers in the utilization of synthetic concoctions.

The principle reason that starts the specialist to take this examination is that like most gardening maker nations around the globe like Canada, Netherland, Uganda and Kenya our nations additionally reprimanded about legitimate working condition for bloom ranch labourers. With the goal that the significant point of worker's wellbeing and security rehearses.

The Floriculture Industry in Ethiopia and its Code of Practice: According to EHDA there are around 104 flower farms in Ethiopia and from 104 farms 13 of them are found in Bishoftu. However the study was specifically focus on health and safety measures of 5 farms in Bishoftu. These are Yassin Legesse Johnson, Minaye, Dugda, and Olij & Joytech.

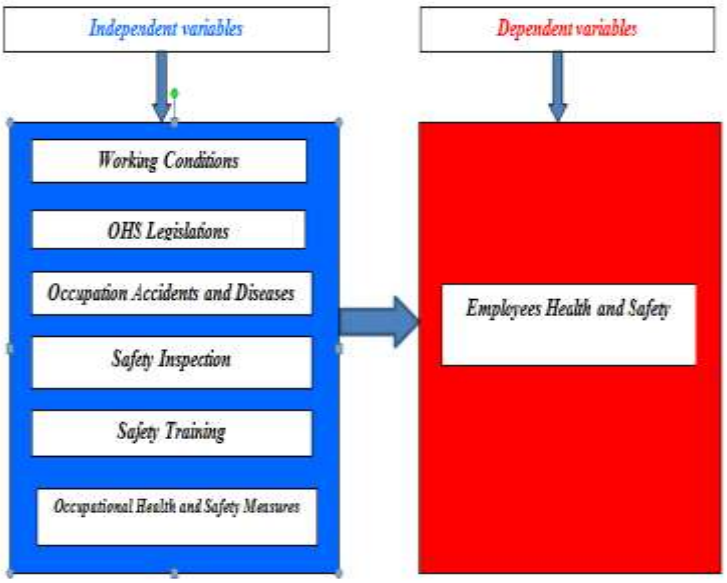
Companies which engaged in the production of Horticultural products in Ethiopia are guided by Ethiopian Horticultural Industry code of practice. According to Getu (2009) Ethiopian Horticulture Producers and Exporters Association (EHPEA) has developed its code of practice in 2007 with an aim of providing a mechanism which enables the Ethiopian floriculture sector to achieve the highest performance standards by continuously improving with sustainable development while improving the competitive position in the market. Process of developing the code of practices, review of Ethiopian laws, the concerns and labels of the international market, stakeholders and the interests of farmers have been included.

The EHPEA Code of Practice comprises of three degrees of greatness permitting Ethiopian bloom and fancy plant ranches to be compensated at each phase of their procedure. These are Bronze, Silver and Gold Level. The EHPEA Code incorporates at Bronze level, the key issues that are of worry to global purchasers and partners in Ethiopia and the prerequisites of Ethiopian Legislation for Code consistence, Regulation 207/2011 Code of Practice of the Floriculture Sector, which sets the base adequate norms for activity of a fare bloom or ornamentals ranch in Ethiopia. Be that as it may, models for certain business sectors and individual purchasers and benchmarks embraced by certain ranchers may surpass those portrayed in the base standard and the Silver and Gold levels are given to quantify and convey the accomplishment of better expectations (EHPEA, 2013).

The Silver Level sets globally perceived norms for Good Agricultural Practices, Protection of the Environment and Responsible Employment Practices and incorporates necessities of equal substance and standard to the International Market Labels that are broadly utilized in the Sector. (in the same place). The Gold Level sets better expectations and moves the homestead to point past the division seat marks. Farms at Gold level should get engaged with Corporate Social Responsibility, Environment Conservation, Product Quality Management and Sector Development through contribution in industry improvement exercises and the executives limit assembling, The ranch will build up an instrument for building and keeping up great connection with nearby network and The ranch will

show that it has completed an interview procedure with the ranch staffs and neighborhood network to recognize need of help (service of condition and woods, 2014).

II. Theoretical Frame Work



Source: Adopted by the author from Abraham A. (2008) "risk behaviour in adolescences among high school students" modified by the researcher.

III. Research Methodology

Goals of the Study

General Objective

The General goal of the examination is to evaluate the components influencing representative's wellbeing and security rehearses if there should be an occurrence of Selected blossom cultivates in Bishoftu.

Explicit target

The particular targets of the investigation are:

- To evaluate the working state of the bloom ranch.
- To recognize on work word related mishap and word related illnesses.
- To distinguish the prearranged wellbeing and security preparing.
- To distinguish the wellbeing and security examination practice of the destinations under investigation.
- To survey the execution level of word related wellbeing and security enactment.
- To evaluate the word related wellbeing and security estimates taken by the association.

Research Design

To collect the available data the study uses both quantitative & qualitative techniques. The reason for the researcher selecting these techniques is that because its help full to explain the existing problems associated with health & safety measures & also it's helpful to set the appropriate suggestion in order to improve the Health and safety measures of the flower farms under study.

Sample Size

Since the total population size i.e. the total number of employees is 700. Using the above formula, a total of 225 employees was selected for the study.

Sources and method of data collection

This study used both primary and secondary data. In order to collect primary data the researcher administered the questionnaires. The secondary data, on the other hand was derived from journals, research reports,

available books, different web sites including the official website of the five flower farms & other publications related to the issue are used.

IV. Method of data analysis

During data Analysis, to further transformation of the processed data and to look for pattern & relation among data group the researcher used qualitative & quantitative method of analysis. The data collected from the questionnaires was summarized and analyzed by way of using SPSS 21 and the results was presented in the form of Correlation Matrix, Multiple regression analysis, multi co linearity and ANOVA test.

Table: 1

Correlations between working condition & employee's health & safety

		Working Condition	Employees Health & safety
Working Condition	Pearson Correlation	1	.028
	Sig. (2-tailed)		.665
	N	250	250
Employees Health & safety	Pearson Correlation	.028	1
	Sig. (2-tailed)	.665	
	N	250	250

** Correlation is significant at the 0.01 level (1-tailed). Source: Authors compilation

Working condition has no positive and huge association with Employees wellbeing and security. The connection between working condition is tried against Employees wellbeing and security. The outcome demonstrates that there is no a factually critical connection between the two factors (r=.028, n=250, p>.01). The connection between the factors isn't critical and the relationship is very week which is exceptionally near zero. Thus, the primary invalid speculation is acknowledged or the elective theory is dismissed

Table: 2

Correlation between occupational accident & disease and employee's health & Safety

		Occupational accident & disease	Employees Health & safety
Occupational accident & disease	Pearson Correlation	1	.801**
	Sig. (2-tailed)		.000
	N	250	250
Employees Health & safety	Pearson Correlation	.801**	1
	Sig. (2-tailed)	.000	
	N	250	250

** Correlation is significant at the 0.01 level (2-tailed). Source: Authors compilation

Work related mishap and malady has no measurably noteworthy association with Employees wellbeing and security. The connection between Occupational mishap and illness is tried against Employees wellbeing and security. The outcome demonstrates that there is a factually huge and solid connection between the two factors ($r=.801$, $n=250$, $p<.01$). The connection between the factors is noteworthy and the relationship is solid which 80.1% is. Henceforth, the second invalid theory is dismissed or the elective speculation is acknowledged.

Table: 3

Correlation between safety training and employee's health & safety

		Safety Training	Employees Health & safety
Safety Training	Pearson Correlation	1	.258**
	Sig. (2-tailed)		.000
	N	250	
Employees Health & safety	Pearson Correlation	.258**	1
	Sig. (2-tailed)	.000	
	N	250	250

** Correlation is significant at the 0.01 level (2-tailed). Source: Authors compilation

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Safety training has no statistically significant relationship with Employees health and safety. The relationship between Safety training is tested against Employees health and safety. The result indicates that there is a statistically significant but as it can be seen from the result, relationship between the two variables is week (r=.258, n=250, p<.01). Therefore, the relationship between the variables is significant and the correlation is week which is 25.80%. Hence, the third null hypothesis is rejected or the alternative hypothesis is accepted.

Table: 4

Correlations between safety legislation & Employees health & safety

		Safety Legislation	Employees Health & safety
safety legislation	Pearson Correlation	1	.660**
	Sig. (2-tailed)		.000
	N	260	250
Employees Health & safety	Pearson Correlation	.660**	1
	Sig. (2-tailed)	.000	
	N	250	250

** Correlation is significant at the 0.01 level (2-tailed). Source: Authors compilation

Safety Legislation has no statistically significant relationship with Employees health and safety. The relationship between Safety Legislation is tested against Employees health and safety. The result indicates that there is a statistically significant but as it can be seen from the result, relationship between the two variables is week (r=.258, n=250, p<.01). Therefore, the relationship between the variables is significant and the correlation is week which is 25.80%. Hence, the fourth null hypothesis is rejected or the alternative hypothesis is accepted.

Table: 5

Correlation between occupational safety and employee's health and safety

		Occupational Safety	Employees Health & safety
Occupational	Pearson Correlation	1	.828**

		Occupational Safety	Employees Health & safety
Safety	Sig. (2-tailed)		.000
	N	260	250
Employees Health & safety	Pearson Correlation	.828**	1
	Sig. (2-tailed)	.000	
	N	250	250

** Correlation is significant at the 0.01 level (2-tailed). Source: Authors compilation

Occupational Safety has no statistically significant relationship with Employees health and safety. The relationship between Occupational Safety is tested against Employees health and safety. The result indicates that there is a statistically significant but as it can be seen from the result, relationship between the two variables is week (r=.828, n=250, p<.01). Therefore, the relationship between the variables is significant and the correlation is strong which 82.80% is. Hence, the fifth null hypothesis is rejected or the alternative hypothesis is accepted.

Table: 6

Correlations correlation between occupational health and employee's health and safety

		Occupational Health	Employees Health & safety
Occupational Health	Pearson Correlation	1	.801**
	Sig. (2-tailed)		.000
	N	342	250
Employees Health & safety	Pearson Correlation	.801**	1
	Sig. (2-tailed)	.000	
	N	250	250

** Correlation is significant at the 0.01 level (2-tailed). Source: Authors compilation

Occupational Health has no statistically significant relationship with Employees health and safety. The relationship between Occupational Health is tested against Employees health and safety. The result indicates that there is a statistically significant but as it can be seen from the result, relationship between the two variables is week ($r=.660$, $n=250$, $p<.01$). Therefore, the relationship between the variables is significant and the correlation is relatively strong which 60.0% is. Hence, the sixth null hypothesis is rejected or the alternative hypothesis is accepted.

Multiple Linear Regression Analysis

These study was used us dependent variable (Employees health and safety) it is symbolized by Y and us independent variables working condition, occupational accident & disease, safety training, safety legislation, occupational safety and occupational health those symbolized by X1, X2, X3, X4, X5 and X6 respectively.

Therefore, the multiple linear regression models could be: $Y = \beta o + \beta 1X1 + \beta 2\ X2 + \beta 3X3 + \beta 4X4 +. B5X5 + \beta 6X6$

The βo is the intercept that indicates the average value of the dependent variable when the explanatory or independent variables considered constants. And each βs represents the coefficients of the independent variables by which the dependent variables varies in average whenever the respective independent variables increased by one unit (Perry, 2004).

Nevertheless, before directly embarking to multiple regression analysis, it is very compulsory to check the Normality of the Dependent variable and Multi-Co linearity problems among the six independent variables.

i) Multi- co linearity diagnostics

Multi-co linearity shows that two factors might be estimating something very similar, as opposed to being connected. One arrangement might be to dispense with one of the factors; another arrangement is to join them. When in doubt of thumb, indicator factors can be corresponded with one another as much as 0.8 before there is cause for worry about Multi co linearity.

This can be checked through VIF esteem; on a basic level VIF estimation of every free factor ought to be under 5 % so as to stay away from Multi co linearity among the autonomous Variables (Gliner and Morgan, 2000). Or on the other hand resilience of under 0.20 or 0.10 and additionally a VIF of 5 or 10 or more shows Multi co linearity. A resistance near 1 methods there is little Multi co linearity, though a worth near 0 proposes that Multi co linearity might be a danger. Henceforth, if there should be an occurrence of the present investigation, the Multi co linearity finding done as pursues.

Table 7

Co linearity Static

Model	Co linearity Statistics	
	Tolerance	VIF
(Constant)	.970	1.031
Working Condition	.919	1.088
Safety training		
Safety Legislation	.608	1.645
Occupational Safety		
Occupational Health	.402	2.486
	.432	2.313

Source: Authors compilation

As displayed in the table above, all the values of VIF are

below 0.05 (5 percent). Hence, there is no multi co linearity problem among the independent variable.

ii) Normality of the dependent variable

Numerous factual tests and techniques accept that information pursues typical (ringer formed) dissemination. Before applying measurable techniques that expect ordinariness, it is important to play out a typicality test on the information with a portion of the strategies to check residuals for ordinariness. On the off chance that the information pursues an ordinary dissemination the theory acknowledged and on the off chance that it is the inverse the analyst dismiss the speculation.

The sample taken for the study was 255, which supposed to be relatively large. Hence, it is possible to check the normality of the data with this method and as the figure below depicts, the histogram is bell-shaped. Hence, it is assumed that the dependent variable is normal and as the result it is possible to use multiple linear regressions.

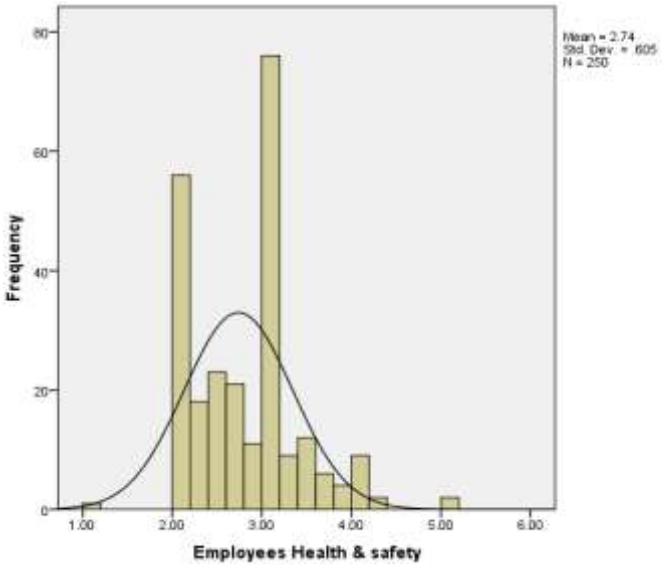

Figure 1

Table 8

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.889a	.791	.786	.27992

Source: Authors compilation

a. Predictors: (Constant), Occupational Health, Working Condition, Occupational accident & disease, Safety Training, Safety Legislation, Occupational Safety.

The R value (.889a) shows the various relationship coefficients between all the entered free and the reliant variable.

The R square an incentive in the model synopsis in table 8 shows the measure of fluctuation in the needy variable that can be clarified by the free factors. Thus, from the outcome, the R square worth 0. 791 (79.1 %) shows that the changeability of the wellbeing and security of workers clarified by the fluctuation of the autonomous factors. While, the staying, 20.90% clarified by different factors. Then again, the balanced R square alters for an inclination in R2 as the quantity of factors increments. With just a couple of indicator factors, the balanced R2 ought to be like the

R2 esteem. Consequently, if there should arise an occurrence of the present examination, the balanced R Square worth is 78. 6%. That shows that the predispositions happened with R2 could be balanced by this sum. Also the estimations of the two R Square and balanced R square show little distinction. The ANOVA table is then produced, which tests the significance of the regression model. The following table shows significance of the regression model of the study.

Table 9

ANOVA TEST

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	72.144	6	12.024	153.454	.000b
Residual	19.040	243	.078		
Total	91.184	249			

Source: Authors compilation

a. Dependent Variable: Employees Health & safety

b. Predictors: (Constant), Occupational Health, Working Condition, Occupational accident & disease, Safety training, Safety Legislation, Occupational Safety

As described above, the ANOVA tests the importance of the regression model. As with any ANOVA the essential pieces of information needed are the DF, the F- value and the probability value. The above table clearly shows that $F(6,243) = 153.454$, $p < 0.05$, and therefore it is possible to conclude that the regression model is statistically significant.

Table 10

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		

(Constant)	.083	.140		.590	.555
Working Condition	.023	.031	.022	.721	.471
Occupational accident & disease	-.019	.027	-.021	-.709	.479
Safety training	.044	.043	.031	1.029	.304
Safety Legislation	.213	.041	.195	5.174	.000
Occupational Safety	.457	.049	.431	9.279	.000
Occupational Health	.435	.052	.371	8.296	.000

Source: Authors compilation

a. Dependent Variable: Employees Health & safety

As indicated by (Hair, 2000) the test will be huge if the p-esteem is under 0.05. The beta coefficient is utilized to figure out which autonomous factors have the most effect on the reliant variable. Variable with biggest Beta Coefficient demonstrates the most elevated commitment of that free factor to the fluctuation of the Dependent variable. The outcome is of ward factors are shown in the table above. Henceforth, as delineated in the table, the autonomous with the best Beta coefficient is Occupational Safety; $\beta 1 = 0.457$, demonstrates, as the association expands its push to improve one factor of word related security, the circumstance of the workers' wellbeing and wellbeing can be supported up by the measure of 45.70%. In any case, previously, distinguishing the arrangement of significance of the free factors, it is mandatory to recognize the factors with measurably critical impact on Employees Health and wellbeing. To do this, the accompanying theories were proposed by the scientist. The tests occurred with Beta and P-values.

At 95% certainty interim, the outcome in table 4.18 above demonstrates that solitary the three free factors; have a measurably noteworthy impact security enactment, word related wellbeing, Occupational Health though the initial three autonomous factors are unimportantly influence the reliant variable.

Subsequently, the initial three invalid theories are acknowledged implying that the representatives' wellbeing and security is unimportantly influenced by, Working Condition, Occupational mishap and ailment, Safety preparing. Be that as it may, the reliant variable is fundamentally influenced by the last three free factors, Safety Legislation, Occupational Safety and Occupational Health. Consequently, the fourth, fifth and 6th invalid theories are dismissed

and their individual elective speculations are acknowledged. Subsequently, in the wake of distinguishing the noteworthy factors, the model becomes.

V. Conclusions

The horticulture business is one of the recently rising enterprises of Ethiopia. Since its humble start in the mid-1990s, it has made work open doors for an enormous segment of the populace and likewise it contributes a ton to the nation's national pay. Regardless of these focal points, some negative angles are existed in the business. The significant negative factor of the blossom business is identified with word related wellbeing and security of workers.

In order to access the factors which affect the occupational health & safety of employees the researcher was develop five factors this are working condition, occupational accident & disease, safety training, safety legislation & occupational health & safety measures. Based on the research findings the conclusions drawn were presented as follows.

With regard to the working condition of the farms the prevalence of high temperature in the green house and a complete absence of natural or artificial means of ventilation makes the working environment difficult. In addition the farms inadequate provision of potable drinking water in or around the green house & lack of shower service to green house employees make things even worse. It would seem that the management is negligence on taking pre-execution measures to make the work place free from hazards & comfortable to workers.

With related to the task they performed employees which found in all of the four departments are exposed to occupational injuries & diseases. Most of the occupational accidents are occurred on new employees, it is because of poor induction training & the occurrences of occupational disease didn’t show any decline in the past few years. However the management in farms have limitation in investigating the source of accidents.

The farms trend needs further improvement in the area of safety training & refresher training programs. The farms have limitation in communicating occupational health and safety regulations to employees. In addition the farms did not implementing the legislation. The research also comes up with the finding that the responsible government bodies were reluctant to enforce the policy measures.

The safety committees are not active & influential in the farms health & safety management affairs. The farms also didn’t design safety inspection because of this the farm loss the advantage of locating any faults in the system that might be the source of accidents in early stage & furthermore the farms didn’t have a trend in arranging safety awareness boosting programs.

Pertaining to occupational health measures the farms have strength in the provision of first aid treatment & good application time of chemicals. However neither of the farms didn’t arrange pre medical examination for newly recruited workers. Such kind of trend has its own negative impact on the health & safety of employees it is because ill worker who is not compatible for a given task have a chance to assign on a risky area.The farms are willing to

prearrange periodic medical check-up only for sprayers. The findings also clearly show the farms management weakness in taking appropriate pre-executions measures by the management.

VI. Recommendations

In order to improve the Employee Health & safety of employees to flower farm workers and make the sector competitive, it is suggested that the following points need to be considered. These include:

- ✓ Extending the shower service to all employees & also establish a water point & latrines near to every working rooms.
- ✓ Make arrangement on pack house to make employees perform their task seated.
- ✓ Provide milk for workers who deal with chemicals & set us an option birr for employees who dislike milk.
- ✓ Provide proper induction training to new entrants, providing health and safety training to all workers & develop a safety boosting programs like by celebrating safety week.
- ✓ Label warning in risky areas by using different languages & also put easy signs which is simple understandable by all employees.
- ✓ Instruction manuals & safety procedures should be posted in a prominent place in the farms by using the local languages of the workers.
- ✓ Properly implemented the health and safety legislation issued by appropriate authorities.
- ✓ Provide workers with a full and comprehensible explanation of the health & safety legislations.
- ✓ Copies of the Health & safety legislations which is prepared by the local languages of the workers should also be made available to workers if and when requested.
- ✓ The concerned government bodies should have to make supervision on the farms.
- ✓ Establish active, functional & problem solving safety committee.
- ✓ It ensure the work place and premises do not cause danger to the Well being and safety of the workers by making continuous & regular safety inspection.
- ✓ Provide a pre medical check up for new entrants & expand the periodic medical check up for all employees.
- ✓ Establish occupational health programmes which focus both on preventive and curative health care services.
- ✓ To reduce the use of agrochemicals, use as an option Integrated Pest Management (IPM) practices, compost & organic pesticides.

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