



## The right to safety and health of workers in floriculture industry: The case of floriculture industry in and around Batu/Ziway (Ethiopia)

Solomon Dessalegn Dibaba

Lecturer at Law, Department of Law, College of Law and Governance, Oromia State University, Batu, Ethiopia

### Abstract

Even though the emergency of floriculture industry is a recent phenomenon, it has brought many blessing to Ethiopia. It is a source of export earnings; it is a means of employment for many, especially for women; it is a cause for the expansion of infrastructure and other advantages. But there are critiques in relation with social and environmental shortcoming of the sector. It is blamed that many workers who are employed in this sector are working in poor working conditions. Due to the intensive utilization of chemicals, pesticides, fungicides and fertilizers by this sector, workers exposed to occupational safety and health problems.

This research examines safety and health condition of the floriculture workers in and around Batu/Ziway. Results of qualitative data gathered indicate that the safety and health of workers in the study area are at risk. This research indicate that the elements of safety and health, like the provision of personal protective equipment's, the availability of regular medical checkups by the employers to employees, the provision of training on occupational safety and health were not provided as required by law.

There are also some weaknesses from the government on implementing those laws made to protect and promote safety and health of workers. There is a problem of budget, motivation, authority and lack of coordination or networking among the stakeholders. After identifying the existing problems on safety and health in the study area, this research has given a substantial recommendation to relieve existing problems.

**Keywords:** Health, right, safety, workers and laws

### 1. Introduction

Floriculture is branch of horticulture that is concerned with propagation of ornamental plants, specifically focusing on flowering plants<sup>[1]</sup>. Floriculture can be defined as a discipline of horticulture concerned with cultivation of flowering and ornamental plants for gardens and floristry comprising the floral industry<sup>[2]</sup>. Globally, the horticulture industry has been growing very fast, it is developed in Kenya and picking up in Tanzania, Ethiopia and Uganda<sup>[3]</sup>. The Ethiopia floriculture industry was started in the early dates of 1980<sup>[4]</sup>. Ethiopia is endowed with extensive natural resources that make the country suitable for the development of varieties of flowers, vegetables, fruits and herbs<sup>[5]</sup>.

The flourishing of the industry, in a country where unemployment is a big problem, capital is scarce and labor is abundant, coupled with the relatively huge participation of foreign direct investors in the industry and the dramatic performance registered in foreign exchange earnings, has therefore become a significant contributor to the national

economy as well as a key means of linking the poor to the global product markets<sup>[6]</sup>. Young unemployed citizens, women in particular, have been to the take advantage of new employment opportunities arising from the introduction and growth of the cut-flower industry in Ethiopia. Even though the floriculture is becoming a pillar to the development of the country economy, there are a lot of controversies and critiques in relation labor conditions, social and health of the workers and communities, environmental pollution and others<sup>[7]</sup>. Floriculture industry utilizes a high amount of pesticides and chemicals which seriously affect the health of the workers<sup>[8]</sup>. These pesticides and chemicals can cause cancer, birth defect, reproductive complication, nervous system problem and etc.<sup>[9]</sup> Workers can be exposed to these chemicals, herbicides and pesticides through contact and/or inhalation while spraying, harvesting or packing<sup>[10]</sup>.

The majority of workers in these farms are young women and the health effects of pesticide exposure in women and men may be different in important ways<sup>[11]</sup>. Women on average have lower body weight and a higher proportion of

<sup>1</sup> Dagnachew Mohammed, Assessment of occupational health risks, outcomes and associated factors among floriculture farm workers, East Shewa, Oromia region, may 2004. P 1

<sup>2</sup> <https://www.maximumyield.com/definition/495/floriculture> accessed on 25 November 2017

<sup>3</sup> A study conducted by NAPEA with financial support from the Swedish society for nature conservation (SSNC), the impact of the flower industry on environment and peoples livelihood in Uganda, June 2012, p 1

<sup>4</sup> The Embassy of Japan in Ethiopia, A series of studies on Industries in Ethiopia, March 2008. P 2, See also Gudeta T. Socio-economic and environmental impact of floriculture industry in Ethiopia. 2011-2012. P 8

<sup>5</sup> EHDA, Ethiopia Horticulture Sector Bulletin, issue 01, 2012, p 1

<sup>6</sup> Tewodros WN., Promoting workers' right in the African Horticulture: Labor condition in the Ethiopian Horticulture industry. The National Federation of farm, plantation, fishery and agro-industry trade unions of Ethiopia, 2010, p 2 See also EHAD, Ethiopian Horticulture sector statistical bulletin, issue 01, 2012. P 18

<sup>7</sup> Tewodros WN., p 3-4

<sup>8</sup> Abayneh T., Environmental impacts of floriculture industry in Bishoftu town: A need for strategic environmental assessment, Finfinne (Addis Ababa) University, Faculty of technology, (March 2013) p 33

<sup>9</sup> Id, p 33

<sup>10</sup> Id

<sup>11</sup> Gudeta T., p 3

body fat than men. Women's breast tissue has been associated with significant accumulation of fat-associated pesticide. When women breast feed these pesticides may be passed to nursing infant. Health and safety provisions are often poor, with workers not being provided with protective clothing, toilets, washing facilities and drinking water<sup>[12]</sup>.

Batu/Ziway area floriculture industries extensive use of toxic pesticides, chemicals and fertilizers has caused work related health problems including skin rashes, respiratory problems, eye problems, and miscarriage affecting all most all workers<sup>[13]</sup>. Medical professionals in Sher flower-producing company (one of the biggest floriculture industries in the world found in Batu/Ziway) report 5-10 cases of acute poisoning per day, and a study found an elevated rate of miscarriage, premature births, and congenital malformations among flower workers<sup>[14]</sup>.

Due to these facts, this research addresses or investigates those allegations that arise in relation with the effect of the sector on safety and health of the workers in relation to laws, regulations and policies that have been enacted to protect safety and health of workers.

To study the impact of floriculture industry on safety and health of the workers, and to make strong evidence based claims about the consequence floriculture industry on safety and health of the workers qualitative research method, ranging from questionnaires, interview to in depth focus group discussion collected and used for this study.

### 1. The Emergence of Floriculture Industry in the World and its General Trends

The present day floral industry is a dynamic, global and fast growing industry, which has achieved significant growth rates during the past few decades. Currently, the global trade volume is estimated to be worth more than \$100bn per annum and the major consumer markets are Germany (22%), the USA (15%), France (10%), the UK (10%), the Netherlands (9%), Japan (6%), Switzerland (5%), and Italy (5%), in the year of 2014<sup>[15]</sup>. New production centers stretch from African to Asia and Australia. East African countries like Ethiopia, Kenya and Tanzania host important floriculture industries<sup>[16]</sup>. The Netherlands remains the center of production for the European floral market, as well as a major international supplier to other contents. The flower auction at Aalsmeer is the largest flower market in the world<sup>[17]</sup>.

### 2. An Overview of Ethiopian Flower Industry

The Ethiopian floriculture industry was started in the early dates of 1980s<sup>[18]</sup>. Others date it forward around 1997, where the first private floriculture companies, Meskel flower and Ethio-flora, started activities in few hectares of land<sup>[19]</sup>. But the rapid development of this sector is

originally due to the attempts by several private cut flower farms, which began operation in the early 1990s<sup>[20]</sup>. The cut flower industry has emerged much more recently, but is now one of Ethiopia's main export sectors. Its export performance is booming from year to year. The endowment of Ethiopia with natural resources in different agro-ecological zones which are suitable for the cultivation of horticulture product is a paving factor for the rapid growth of flower industry in the country<sup>[21]</sup>. In addition to this, high level support by the government, favorable investment laws and incentives, proximity to the global market, efficiency of the transport system and availability of abundant and cheap labor are other crucial factors for the rapid development and expansion of the industry<sup>[22]</sup>. The flower farms are owned by internationally well-established foreign companies, local investors and a mix of the two. Currently, the flower farms occupy 1426 hectares of land and there are around 84 (FDI 50, Joint venture 10 and Local 24) active flower farms which make Ethiopia the second largest flower producer and exporter next to Kenya<sup>[23]</sup>. The destinations of the flower export of Ethiopia are Netherlands (80.3%), and the remaining goes to Germany, Saudi Arabia, Norway, Belgium, United Arab Emirates, Japan, USA, France and Italy<sup>[24]</sup>.

### 3. Challenges of Floriculture Industry in Ethiopia

Floriculture industry is growing at astonishing rate since the turn of millennium and contributing a lot of things for the development of the nation (job creation, foreign earnings and other economic returns). In Ethiopia the sector is growing by 20% every year making the nation the second largest African exporter of roses<sup>[25]</sup>. But there are some related critiques against the sector by different organs. There are a lot of controversies on the working condition of the workers. Many workers who are employed in the sector are working in poor working conditions. Low wages, employment insecurity, sexual harassment (females), difficulty of exercising freedom of association and collective bargaining, lack of access to education and training on occupational safety and health, long working hours, inadequate provision of personal protective equipment's (PPE) are among those repeatedly alleged critics on floriculture industry<sup>[26]</sup>. The other main critics and challenge of floriculture industry is its impact on the health of the workers. Because of the intensive utilization of chemicals, pesticides, fungicides and fertilizers, workers are exposed for some occupational injury. The most common pesticides used in flower farming are carbamates, organophosphates and herbicides, and these pesticides are

<sup>12</sup> Smith et.al, a nuclear pore-associated sumo protease, prevents accumulation of cytoplasmic sumo conjugates (2004) p 8

<sup>13</sup> Dagnachew Mohammed, p 2

<sup>14</sup> Id

<sup>15</sup> Global flower trade <http://africanbusinessmagazine.com> 1 February 2017

<sup>16</sup> Id

<sup>17</sup> Id

<sup>18</sup> The Embassy of Japan, n(4), p 5. See also Gudeta, n(4), p 8

<sup>19</sup> Mulugeta G., Ethiopia Floriculture and its Impact on the Environment: Regulation, Supervision and Compliance, Mizan Law Review, Vol. 3 No. 2, Sept 2009, p 240, see also Mulu G. and Tetsushi S., Global Value Chains and Market Formation Process in Emerging Export Activity: Evidence from Ethiopia flower Industry, August 2011. P 4

<sup>20</sup> Yukichi Mano, *et al.*, Local and Personal Networks in Employment and the Development of Labor Markets: Evidence from the Cut Flower Industry in Ethiopia, National Graduate Institute for Policy Studies. Nov. 2010. p 8

<sup>21</sup> Id n(5), p 3

<sup>22</sup> Mulugeta G., n(19) p 241, see also Gudeta T., n (4), p 8

<sup>23</sup> Ethiopia Horticulture Producer and Exporter Association (EHPEA), Export Horticulture in Ethiopia, March 2015, Finfinne (Addis Ababa). pp 3-5

<sup>24</sup> Id, p 9

<sup>25</sup> Mulugeta G., Defiance of Environmental Governance: Environmental Impact Assessment in Ethiopia Floriculture Industry. E3 Journal of Environmental Research and Management, Vol. 4, May, 2013. P 219

<sup>26</sup> Hanan A., Developing strategies for change women workers in African horticulture- The case of Ethiopia NFFPFATU/ study report, Finfinne (Addis Ababa) 2010, pp 26-39, Riisgaard L., How market for standards shapes competition in market for goods: Sustainability standards in flower industry, DIIS working paper, Copenhagen, 2009, p 7

considered to be the most toxic group causing acute and chronic poisoning to farmer workers who are occupationally exposed to them<sup>[27]</sup>.

Occupational exposure of humans to agrichemicals, especially pesticides is common and results different health effects, including cancer, skin allergy, lung damage, respiratory failure, male infertility, adverse reproductive and developmental effects, irregular menstrual flows for women, miscarriages, headache, fainting, nausea, swelling, rashes, and body injury like loss of eye are some prevalent occupational injury that workers encounter<sup>[28]</sup>.

#### 4. Meaning to Occupational Safety and Health

Occupational safety and health (OSH) is general defined as the science of anticipation, recognition, evaluation and control of hazards arising in or from the work place that could impair the health and well being of workers, taking into account the possible impact on the surrounding communities and the general environment<sup>[29]</sup>. Occupational health should aim at the promotion and maintenance of the highest degree of physical, mental and social well being of workers in all occupations<sup>[30]</sup>. This domain is necessarily vast, encompassing a large number of disciplines, numerous work place and environmental hazards. Occupational safety and health is a key element in achieving sustained decent working conditions and strong preventive safety cultures. Occupational safety and health (OSH) is an equivalent term with the human right to health<sup>[31]</sup>. The committee while interpreting Art. 12 of ICESCR, it provides that the right to health extends up to the underlying determinants of health, such as access to safe and potable water, health occupational and environmental conditions<sup>[32]</sup>. State parties are required to formulate, implement and periodically review a coherent national policy to minimize the risk of occupational accidents and diseases, as well as to provide coherent national policy on occupational safety and health services<sup>[33]</sup>. The United Nation International Covenant on Economic, Social and Cultural Rights, also independently reaffirms safety and health at works as human right in the following terms: “The state parties to the present covenant recognize the right of every one to the enjoyment of just and favourable conditions of work, which ensure in particular:... safe and health working condition...”<sup>[34]</sup>.

The right to safety and health at work is also enshrined in the UDHR (Universal Declaration of Human Rights) which state “everyone has the right to work, to free choice of

employment, to just and favorable conditions of work<sup>[35]</sup>.

The ILOs (International Labour Organization) mandate for work in the field of occupational safety and health dates from its very foundation. It starts from ILO Constitution which reads, “And whereas conditions of labour exist involving such injustice hardship and privation to large numbers of peoples as to produce unrest so great that the peace and harmony of the world are imperiled; and an improvement of these conditions is urgently required; as, for example, the protection of the worker against sickness, diseases and injury arising out of his employment<sup>[36]</sup>. This right to decent, safe and health working conditions and environment has been reaffirmed in the 1944 Declaration of Philadelphia. The conference recognizes the solemn obligation of international labour organization to further among the nations of the world programmes which will achieve adequate protection for the life and health of workers in all occupations<sup>[37]</sup>. Close to 80% of all ILO standards and instruments are either wholly or partly concerned with issue related to occupational safety and health<sup>[38]</sup>. ILO has enacted numerous conventions, recommendations, protocols that are relevant to the protection of workers safety and wellbeing. The clear articulation of occupational safety and health as human right to health under different international human right instruments and numerous ILO conventions and declarations demonstrates the important place that has been given to it.

#### 5. The key Principles (Components) of Occupational Safety and Health

A number of key principles underpin the field of occupational safety and health. These principles and the provisions of international labour standards are all designed to achieve a vital objective: that work should take place in a safe and healthy environment<sup>[39]</sup>. While these key principles structure occupational safety and healthy programmes and policies, by no means the following lists are exhaustive.

##### 6.1 Assessment of Risks and Hazards

This is much related with environmental impact assessment<sup>[40]</sup>. Organizations will identify hazards, assess risks, and implement control measures on a proactive basis (rather than a reactive basis). The measures vary from simple to complex, depending on the nature of work place, work environment, and work processes. The issue of indentifying occupational safety and health impacts is a main focus of the environmental impact assessment. Because occupational hazards arise at the work place, it is the responsibility of the employers to ensure that the working environment is safe and healthy. This means that they must prevent and protect workers from occupational risks. The employer shall take appropriate pre-executions to ensure that all the process of

<sup>27</sup> Grace J. A., Occupational pesticide exposure among Kenyan agriculture workers, Utrecht Oct. 1997, pp 12-33

<sup>28</sup> Daniel Hailemichael, Evaluation and development of floriculture supply chain in Ethiopia, to attenuate environmental impact and logistics cost, AAU, 2013, P 11 See also Grace J.A, n(27), p 6

<sup>29</sup> Definition of OSH by the international occupational hygiene association (IOHA): [www.ioha.net](http://www.ioha.net). The membership of the IOHA is made up of professional associations of OSH practioners in 25 countries. The IOHA has consultative status with both the ILO and WHO.

<sup>30</sup> International labour conference, ILO standards- related activities in the area of occupational safety and health: An in-depth study for discussion with a view to the elaboration of a plan of action for such activities, report VI, 91<sup>st</sup> session, Geneva International Labour Office, 2003. Para 4

<sup>31</sup> International Covenant on Economic, Social and Cultural Rights (ICESCR), Article 12 (2), see also ICESCR General Comment 14, The right to highest attainable standard of health (Article 12), Para 11

<sup>32</sup> ICESCR General Comment No 14, Para 11

<sup>33</sup> ICESCR General Comment No 14, Para 36

<sup>34</sup> Art. 7 of International Covenant on Economic, Social and Cultural Rights (ICESCR)

<sup>35</sup> Art. 23 of Universal Declaration of Human Rights (UDHR)

<sup>36</sup> Preamble of the Constitution of the International Labour Organization

<sup>37</sup> Declaration of Philadelphia, adopted at the 26<sup>th</sup> session, May 19, 1944, Para 3

<sup>38</sup> Benjamin O., ALLI, Fundamental principles of occupational safety and health, 2<sup>nd</sup> edn, International Labour Office, Geneva, 2008. P 8

<sup>39</sup> Id, p 17

<sup>40</sup> Environmental impact assessment means the methodology of indentifying and evaluating in advance any effect, be it positive or negative, which result from the implementation of a proposed project or public instrument (Art. 2(3) of Ethiopian environmental impact assessment proclamation No. 299/2002)

work shall not be a source or cause of physical, chemical, biological, ergonomical and psychological hazards to the health and safety of workers<sup>[41]</sup>. All work in the flower farm must be organized in such a way as not to endanger the safety and health of employees and high risk jobs and areas (e.g. spraying and handling pesticides, construction and maintenance work) must be specially indicated and supervised<sup>[42]</sup>.

## 6.2 Education and Training

Training is an indispensable element for floriculture workers. Workers need to know not only how to do their jobs, but also how to protect their lives and health and those of their co-workers while working. Relevant occupational safety and health training should be provided for all workers. Employees and their organizations must be consulted, informed and trained on health and safety matters<sup>[43]</sup>. Information and training courses must be held periodically. New employees, including temporary and subcontracted workers, must be specially informed and instructed on the risks at the work place, using/handling of pesticides, how to use personal protective equipment's and others<sup>[44]</sup>. All workers must be thoroughly instructed and trained by a recognized institution or by specialist on the safe application and the risks of pesticides and chemicals. The employers have an obligation to take appropriate steps to ensure that workers are properly instructed and notified concerning the hazards of their respective occupations and the precautions necessary to avoid accident and injury to health<sup>[45]</sup>. In order to take care of their own safety and health, workers need to understand occupational risks and dangers. They should therefore be properly informed of hazards and adequately trained to carry out their tasks safely.

## 6.3 Provision of Personal Protective Equipment's

Personal protective equipment's (PPE), is the main important ingredient of occupational safety and health (OSH). Employers are required to provide workers with protective equipment, clothing and other materials and instruct them of its use<sup>[46]</sup>. All personnel involved in handling pesticides should have appropriate PPE, like boots, overall, spray suit, respirator, gloves and goggles or face shield and others<sup>[47]</sup>. Staff must be trained to use and care for their PPE correctly and there should be facilities for cleaning and storing of those PPE<sup>[48]</sup>. In addition these PPE should be replaced within a regular time of intervals and equipment's must receive regular maintenance and should be cleaned and tested for each application<sup>[49]</sup>.

## 6.4 Medical Check ups

The employer has an obligation to arrange, according to the

nature of the work, at his own expense for the medical examination of newly employed workers and for those workers engaged in hazardous work, as may be necessary<sup>[50]</sup>. Personnel working in spraying, mixing, storing and handling of pesticides must be medically examined every three (3) months and workers in the cultivation, harvesting and finishing sections should be medically examined once a year and at the beginning and end of their employment<sup>[51]</sup>. The findings must be communicated to the persons in a readily understandable form and a complete documentary record of such examinations must be kept<sup>[52]</sup>.

## 6.5 Provision of Welfare and Accommodation Facilities

The flower farm must have a suitable, clean, social and sanitary infrastructure which conforms to the requirements of its employees and is adequate to their numbers. Clean drinking water must be available during working hours, within a reachable distance from the working place; appropriate toilet, shower and hand washing facilities, should be provided and maintained in good working order; transport service and recreation areas should be provided to the workers<sup>[53]</sup>.

## 6.6 Maintenance of Records and Statistics

Records and statistics of occupational safety and health activity will be maintained by organizations, including records of safe work procedures, safety training, inspections, and investigation reports. These records and statistics will assist in identifying trends, unusual conditions, and problem areas, and play an important role in identifying the underlying causes of work place injuries and occupational diseases<sup>[54]</sup>. There should be a written procedure in place for recording accidents and the treatment applied and the records shall be reported to MOLSA (Woreda Office) every three months<sup>[55]</sup>.

## 6.7 First Aid

Organizations will ensure that the first aid services are available and consistent with requirements of the occupational safety and health regulation, which requires that employees be provided with prompt, easily accessible, and appropriate first aid treatment<sup>[56]</sup>. First aid facilities should be available at all operating sites where at least two persons trained in first aid procedure should be present. For emergencies and accidents, rapid medical attention and an appropriate first aid organization on site must be assured and the company has to arrange transport to the nearest hospital when necessary<sup>[57]</sup>.

<sup>50</sup> Ethiopia labor proclamation No. 377/2003 (Art. 92 (3))

<sup>51</sup> Flower label programme (FLP) n (42), p 71

<sup>52</sup> Id, p 9

<sup>53</sup> Federal democratic republic of Ethiopia, occupational safety and health directive, Ministry of labour and social affair, May 2008, p 105, see also EHPEA code of practice for sustainable flower production, version 4.0 issue date January 2015, p 72

<sup>54</sup> Ethiopia labor proclamation No. 377/2003 (Art. 92 (4))

<sup>55</sup> EHPEA code of practice for sustainable flower production, version 4.0 issue date January 2015, p 72

<sup>56</sup> Global horticulture workers and environmental rights network (GHOWERN), (2010), pesticides exposure in Latin Americans flower export trade, A Workers and environmental rights Journal, issue 01, Vol 001, p 20

<sup>57</sup> Flower label programme (FLP), n (42), p 9, see also EHPEA code of practice for sustainable flower production, Version 4.0, Issue Date January 2015, p 7

<sup>41</sup> Ethiopia Labor Proclamation No. 377/2003 (Art 92 (7))

<sup>42</sup> Flower label programme (FLP), Guideline for socially and environmentally responsible production of cut flowers, 1999, p 6

<sup>43</sup> Id, p 8

<sup>44</sup> Taylor B., Ethiopia's growth set to bloom a global production network analysis of an experiment in economic liberalization, thesis for Degree of Doctor of Philosophy, School of international development, University of West East Anglia, p 80

<sup>45</sup> Ethiopia labor proclamation No. 377/2003 (Art. 92 (2))

<sup>46</sup> Id, (Art. 92(5))

<sup>47</sup> EHPEA code of practice for sustainable flower production, version 4.0 issue Date January 2015, p 69

<sup>48</sup> Id

<sup>49</sup> Flower label Programme (FLP), n (42), p 71

## 6. Data Analysis and Findings on Safety and Health of Floriculture Industry in and around Batu/Ziway

The finding and analysis of this research revealed based on primary and secondary sources. The study have employed qualitative approach to data collection which are among giving out questionnaire, interviews with selected floriculture workers, farm managers, and the concerned federal and regional organs, focus group discussions, and personal observation has been utilized. The secondary source of information's has been also referred from documentary analysis, published or unpublished articles, internet sources and books.

With respect to questionnaire workers were selected randomly to analyze the occupational safety and health condition of the workers at their respective farm. The respondents were from the whole farms and they have different work category, position, work experience, educational background, age groups, marital status, and sex. Such type of diversified sampling helps to acquire different personal opinion, feelings, attitudes, unforeseen problems, and others. In addition interview, focus group discussion and direct personal observation have been used in order to cross check and strengthen findings that have been found through questionnaire.

### 7.1 Characteristics of the Farms and the Respondents on Occupational Safety and Health

All of the farms of the case study belong to foreigners, i.e. Holland <sup>[58]</sup>. This is common in Ethiopian Floriculture industry in which they are mostly owned by foreigners or as joint ventures. The farms have been in the business for more than thirteen years <sup>[59]</sup>. The total developed land varies from farm to farm <sup>[60]</sup>. Sher Ethiopia floriculture industry (plc), which is the largest flower farm in Ethiopia, holds around 700 ha of land <sup>[61]</sup>. The type of flower they are producing is roses <sup>[62]</sup>. The certification label which is given by the ministry of environment and forest, EHPEA and international market have an important role on the protection of workers right, although there are some critiques on the certification level that farms acquire from the international market labeling system. The case study farms have already employed more than 15,000 workers whether in temporary, causal or permanent way <sup>[63]</sup>.

When we come to demographic characteristics of the sampled workers they number around 360. Out of this number 66% of the total sample workers are female while the remaining 34% sampled workers are male. The sector much related with gendered employment structure and associated with female dominance in number. The majority of the respondents are found between the ages of 18-35 (73%). The remaining 25% are between 35-50 ages, 2% are greater than 50 and 0% below the age of 18 years, which is an indication of the absence of child labour in those farms.

Majority of the respondents have the working experience in their respective farms for about 1 up to 5 years (61%). This helped the outcome of this research since the respondents would hopefully have an exposure to the raised questions on

questionnaire. When we see the task of the respondents 39% are green house workers, 29% are packing workers, 23% are sprayers, 6% are cold room workers and the remaining 3% are others which includes maintenance, security and installation workers.

## 8. Health and Safety Conditions of Workers at their Work Place

In this section the views of respondents on their occupational safety and health condition has been analyzed by taking different sub components of occupational safety and health elements.

### 8.1 Attention Given to Workers Occupational Safety and Health

In the sample study the majority of the respondents said that their employers do not pay attention to the occupational safety and health (OSH) of its employees. About 157 (44%) out of 360 respondents replied as their employer failed to attention to workers occupational safety and health. The interview and focus group discussion that have been made with the workers also have strengthened these responses of the workers. This means the employer failed to respect one of his obligations to safe guard adequately safety and health of workers, i.e. taking appropriate pre-executions to ensure that all the process of the work shall not be a source or cause of physical, chemical, biological, ergonomical and psychological hazards to the safety and health of the workers <sup>[64]</sup>. Also violates workers constitutional right to work in safe and healthy environment <sup>[65]</sup>. The respondents provide that most of the time their farm concerned about productivity and the quality of their flowers rather than the safety and the health of their workers. Even out f 101 workers who have said their farm give an attention to its workers safety and health, they have rated the attention given by their employer to workers occupational safety and health is poor (48%) and needs improvement while the remaining 37%, 8%, 7% have indicated the given attention as satisfactory, good and very good respectively.

### 8.2 Requirement for Regular Medical Checkups

The sample has revealed 257 (71%) of the respondents replied the absence of regular medical checkups by their employer. This means the employer failed his/her obligation, to arrange according to the nature of the work, at his own expense for the medical examination of newly employed workers and for those workers engaged in hazardous work, as may be necessary <sup>[66]</sup>. Failed his/her obligation that personnel working in spraying, mixing, storing and handling of pesticides must be medically examined every three months and workers in the cultivation, harvesting and finishing section should be medically examined once a year and at the beginning and end of their employment and the findings must be communicated to the persons in a readily understandable form <sup>[67]</sup>. In addition, the employer failed his obligation of conducting a regular monitoring of workers' safety and health within a certain

<sup>58</sup> An interview conducted with Mr. Alamayo, the human resource manager of Ethiopia Sher Floriculture Industry. Accessed on 12 February 2018

<sup>59</sup> Id

<sup>60</sup> Id

<sup>61</sup> Sher- Ethiopia-Kemal-12 (May 2016), p 3

<sup>62</sup> Id

<sup>63</sup> Id

<sup>64</sup> Id, n (41),

<sup>65</sup> Proclamation No. 1/1995 FDRE Constitution (Art. 42(2)). See also Article 7 of ICESCR, Article. 23 of UDHR, and Preamble of the Constitution of International Labour Organization.

<sup>66</sup> Id, n (50), Art. 92(3)

<sup>67</sup> EHPEA code of practice for sustainable flower production, version 4.0 issue date January, p 9, see also Flower label programme, n(42), p 9

time interval <sup>[68]</sup>. The sample also revealed that 28% of the respondents replied as they don't know the presence of medical checkups. 3% of the respondents have not given any response for the asked questions. From those 64 workers who received medical checkups, 59% said they have these medical checkups with a six month of time intervals.

### 8.3 Incidence of Work Related Health Problems

About 213 (59%) of respondents indicated as they experience some work related health problems like head/stomach ache, fainting, skin allergy, irregular menstrual flow, dizziness, some respiratory organ problems and others. This means the employer failed to observe and enforce one of his obligations to ensure that the work place and premises do not cause danger to the health and safety of workers, and failed to ensure the availability of occupational health service to his employees <sup>[69]</sup>. While the researcher visiting the green house, it was too difficult to breath there. Since the area found in the Great Rift Valley Region, there is high amount of temperature even outside green house. Sometimes it reaches more than 38 °C during the off rain seasons. We can imagine how it will be difficult to work inside as such times. As obtained from the focus group discussion the sprayed pesticides' will remain inside the green house due to the prevalence of high temperature in the area. Form this it is possible to imagine that majority workers in the green house were easily susceptible to work related health problems. And this is what the response of respondents proof for.

#### Case One: Work related health problem

This is the case of a worker who works as sprayer in Sher Ethiopia flower farm. He is 33 years old who is married and have two sons. He told me that the chemical which he was going to spray leaked to his left side face. Then his colleagues who were working with him noticed this and took him to Sher hospital. Even though he got medical treatment from the hospital, his face was partially damaged. After having one month of sick leave he returned back to his previous working position. As he told me he couldn't resume his job because of the fact that when he approaches working area, his injured part of face starts irritation. Even if additional leave was given when he come back to his work same problem continues. He said the employer failed to give him sufficient rest and medical support. In addition to the pain he is suffering from the burn of that chemical, he told me that he is in difficult to manage his family, since he was/is win bread of his family.

### 8.4 Training and Awareness Creation

In developing countries, pesticides are generally applied by farm workers, many of whom have insufficient education and training in different methods of application <sup>[70]</sup>. The workers often lack awareness of the potential hazards and don't know how to use personal protective equipment (PPE) <sup>[71]</sup>. For this reason, an effective network of extension and advisory services, which provide technical advice on the

safe use of pesticides, can be of great value in preventing health effects <sup>[72]</sup>. Employees and their organizations must be consulted, informed and trained on safety and health matters <sup>[73]</sup>. New employees, including temporary and sub contracted workers, must be special informed and instructed on the risks at the work place, using or handling of pesticides, how to use personal protective equipment's and others <sup>[74]</sup>. Especially, all spray operators must be thoroughly instructed and trained by a recognized institution or by specialist on the safe application and the risks of pesticides and chemicals.

Asked whether their employers gives awareness on safe use and handling of chemicals, how to use personal protective equipment and awareness creation on protection of HIV/AIDS, 219 (61%) of the respondents revealed that their employers do not periodically train them on the safe use or handling of chemicals, give them awareness on HIV/AIDS protection, and how to use PPE. This shows as the employer failed one of his obligation which is obligation of taking appropriate steps to ensure that workers are properly instructed and notified concerning the hazards of their respective occupations and the precautions necessary to avoid accident and injury to health; failed to ensure that directives are given and also assign safety officer; establish an occupational safety and health committee <sup>[75]</sup>. The labeling and packaging of pesticides are often inadequate and inappropriate for the area where they are used. The advice often written in a language that the user (workers) not understands and the toxicity of chemicals explained to workers poorly or not at all. 15% of the respondents replied that they have no knowledge as to the issue of training and awareness creation by the employer, and the remaining 5% of the respondents do not gave their response to the presented question.

### 8.5 Provision of Personal Protective Equipment's (PPE)

Approximately 154 (43%) from out of the total respondents reported that they were not given protective equipment, especially, those non permanent workers are the most one. As it has been revealed by the interview, temporary workers are not given PPE like gloves and suits until they become permanent workers. In the green house the researcher personally observed that most harvesters use some materials like cartons and plastics as protective equipment to avoid contact between the harvested flower and their skin. The workers are thus at risk of being exposed to the chemicals hence affecting their health. It is found that 136 (38%) of the respondents have reported that their employer provides them PPE. But from personal observations, many pesticides are applied by people wearing inadequate or unsuitable clothing, which is frequently worn for extensive periods after being contaminated by pesticides. It has been also witnessed that workers were not interested to wear the PPE due to the fact they had not been trained in the use of PPE and its importance in protecting them from dangerous chemicals. 15% of respondents replied that they don't have any clue concerning PPE and their significance, and 4% of the sample does not have any response to the asked

<sup>68</sup> EHPEA, P 9

<sup>69</sup> Ethiopia labor proclamation No. 377/2003, Art. 92, see also Ethiopia public health proclamation No. 200/2002, Art. 11 (1) and Art. 42 (2) of FDRE constitution

<sup>70</sup> Flower label programme n (42), p 6

<sup>71</sup> Id

<sup>72</sup> Id

<sup>73</sup> Id, p 8

<sup>74</sup> Taylor B., n(44), p 80

<sup>75</sup> Ethiopia labor proclamation No. 377/2003, Art. 92 (2), see also Ethiopia public health proclamation No. 200/2002, Art. 11 (1) and Art. 42 (2) of FDRE constitution

question. Overall the response of respondents, interviews and focus group discussions shows as the employer failed to provide workers with protective equipment, clothing, and other materials <sup>[76]</sup>, failed to provide free of charge suitable protective clothing appropriate for the task and failed to provide suitable and properly calibrated spray equipment used for the application of pesticides <sup>[77]</sup>. The other most pecuniary problem in relation to PPE is the absence of regular replacement of PPE. This means the employer failed to maintain, clean and test equipment's regularly after use <sup>[78]</sup>. 42 (31%) out of 136 respondents responded that the PPE do not replaced regularly. 56 (41%) of the respondent said that the PPE replace between 3-6 month intervals. From this we can imagine the replacement was not regular because of this the workers safety and health seriously at danger. 13% said the replacement is every year and while the other 10% and 5% told they don't know and gave no response respectively. This strengthens the employer's failure to observe and enforce his legal obligations. In addition the researcher had observed less quality of PPE that workers used while discharging their duty. Most of women who work in packing house, for example, use medical gloves which can be out of use easily. The boots are made up of plastics and the suits which workers use while harvesting are tore apart and used on.

### 8.6 Provision of Basic Facilities

From out of 360 respondents 91% of them told they are provided with clean drinking water. The remaining 5.5% said they are not provided with clean drinking and 1% replied as they have no knowledge about the case, 2.5% have not responded the question. What the researcher observed here is that there is water which is available to the workers through pipe. But almost all workers comes with plastic to fetch water from the pipe for drink and some other workers use simply their mouth to drink the water, which may cause for transmission of communicable diseases.

With respect to toilet 78% of the respondents responded that they have clean toilet while 18% responded as they have no toilet and the remaining 4% responded as they have no knowledge as to the case. But it has been observed that due to few numbers of toilets, it was crowded during the lunch time and males use the female's toilets and vice versa.

Coming to sanitary and washing facilities 65% of respondents revealed that they haven't access of sanitary and washing facilities. Personally the researcher observed that there are some shower rooms. But from the interview the researcher affirmed that those sanitary facilities like soap are mostly provided to sprayers than other workers. 30% from the total sample said they have the provision of sanitary and washing facilities. But they said that they are provided with soap once per month. From this possible to imagine that providing soap once per month for green house workers that much not sufficient to protect their safety and health because of high temperature and contact with chemical.

The other is transportation by which 94% out of 360 respondents responded that they have no transport service

which take them from home to farm or from farm to home. Also from interview and focus group discussion it was understood that employers didn't provide transportation service for their workers.

The other is recreation centers which are necessary for the well-being of any workers. It maintains the health and activeness of the employees which indirectly enhance the productivity of the companies. 60% out of 360 respondents responded they have no access recreation centers. 20% of respondents told they have recreation centers but from observation it is obtained that there is no recreation centers for green house workers except for those at higher position and professionals. 16% and 4% respondents responded that they have no knowledge of the case and no response respectively.

Finally the respondents were asked to rate the working environment of their working area in relation with occupational safety and health. 46% of them rated that it is very unsafe to work in those farms. 42.5% of them rated their working environment as unsafe. Majority of them said that, they are working there not to die. Their monthly salary is 850 Ethiopia birr, which is around 28 birr per day after working for more than eight (8) hours. So we can imagine how life is hard depending on such amount of salary. Salary one worker earns and health has correlation. The more we earn the more we are healthy, the less we earn the less we are being healthy. So from this all response employers failed their legal obligation as to safety and health of workers special as to the provision of basic facilities. For instance the employer failed to provide workers clean drinking waters which should be available during working hours, within a reachable distance from the working place, appropriate toilet, shower and hand washing facilities that should be provided and maintained in good working order, transport service and recreation area <sup>[79]</sup>.

### 9. Response of Employers or Farms on Occupational Safety and Health of Workers

In order to cross examine the workers response with their employer, some crossing questions have been asked and responded by employers. Asked whether they have a direct or indirect concern for the safety and health of their employees, and the employers responded that they are highly concerned in the protection and promotion of their employee's occupational safety and health <sup>[80]</sup>. They said that they are actively working for the betterment of workers safety and health through established safety committees from different units. The committees meet between 15 days up to month to discuss challenge and prospect of occupational safety and health of the workers and assess the visible and imminent risks of any danger and takes immediate action. The researcher requested the farms to meet him with their safety committee but they failed to do so. That means there was no established safety committee that works on protection and promotion of workers occupational safety and health.

Regarding training and awareness activities which pertain to workers occupational safety and health, the employers

<sup>76</sup> Ethiopia labor proclamation No.377/2003, Article 92

<sup>77</sup> Ethiopia pesticides and registration proclamation No. 674/2010, Article 22

<sup>78</sup> Federal Democratic Republic of Ethiopia, Occupational safety and health directive, Ministry of Labour and Social Affairs, May 2008, Finfinne (Addis Ababa)

<sup>79</sup> FDER Constitution, Article 42(2), Ethiopia labor proclamation, Article 92, FDER Occupational safety and health directive, Ministry of Labour and Social Affairs, May 2008, p 105 and EPHEA code of practice for sustainable flower production, Version 4.0 issue date January 2015, p 72

<sup>80</sup> An interview conducted with Mr. Ashenaf Kebede *et al.* safety and health officer of the study area. Accessed on 10 March 2018

responded that they are actively engaging accordingly within the domain from three month up to year. They said that they gave training on how to use PPE, how to handle/use chemicals/ pesticides, prevention of HIV/AIDS, emergency issues, hygiene, and gender issues. On provision of PPE the employers responded that they are providing the necessary PPE with quality, which replaced with regular time intervals of 3-6 month. Employers also responded as they provide gloves, mask, filter, eye glass, boots, uniform and others.

But what the results of personal observation, interview, focus group discussion and response of respondents provided above clearly shows as the farms/employers failed to provide training and awareness creation on safe use/handling of chemicals/pesticides, HIV/AIDS protection, how to use PPE and first aid as per the laws that regulates occupational safety and health of floriculture workers. Rather the employers/farms focus on amount, quality and productivity of their productions.

With respect to accommodation and welfare facilities, all farms have indicated that they are providing the necessary clean drinking water, toilet, sanitary, washing facilities, and transportation service and recreation areas. But what the results of personal observation, interview, focus group discussion and response of respondents provided above clearly shows as the farms/employers failed to provide welfare and accommodation facilities as per the laws that regulates occupational safety and health of floriculture workers.

**10. The Regional and Woreda Officials Response on Occupational Safety and Health of the Workers**

To make the finding more balanced and concrete, the researcher made an in depth interview with the Oromia Region Labour and Social Affairs Agency (Agency) and the Labour and Social Affairs Bureau (Bureau) of the study area i.e. Batu/Ziway town. Both organs said that they are working to safeguard the safety and health of workers even if there are challenges. They undertake inspection as to the working environment of workers with respect to provision and quality of PPE, give training to OSH committee, labour unions, examining the weakness and strength of farms in connection with OSH and give recommendation if required so.

These two regional organs to carry on their function they depend on Ethiopia labour proclamation No 377/2003, the 2008 occupational safety and health directive and Proclamation No. 163/2011.

The two organs said that none of farms in or around Batu are working adhering themselves to the laws made to protect safety and health of workers. They have listed a lot of challenges with regard to discharging their roles. The Woreda Bureau said that they have no legal officer who is in charge to solve workers complaint as to safety and health as per the laws. Especially, most members of the Bureau qualified with unrelated profession, like physics, mathematics, or linguistics. But the farms have qualified lawyers that easily upper hand any court against workers, agency or bureau. The Woreda labour inspector said that shortage of qualified man power were the main challenge to give training to workers on occupational safety and health, and to inspect the working environment.

Both Agency and Bureau indicated that there is no laboratory at region and woreda level, which used to examine the effects of chemicals/pesticides on safety and health of workers. The Woreda interviewee added that the Bureau practically lacks budget, motivation and authority to supervise and control flower farms found in the Woreda. The interviewee said that there is only one labour inspector in this Woreda in a condition where there is no transport facility to go and inspect the farms, scarcity of budget to give training on occupational safety and health to the workers. Because of problems addressed above Bureau failed to implement recommendations and decision it gave to the farms on occupational safety and health of workers. Both the Agency and Bureau facing problem to supervise, follow and evaluate the safety and health of workers.

The other loophole that has been observed among these regional bodies they haven't coordination/networking from Region-Zone-Woreda level. In addition there is no cooperation between the Oromia labour and social affairs agency and Ministry of labour and social affairs (MoLSA). For instance, the researcher has requested the number of those workers in floriculture who encountered employment injury from the agency and MoLSA. Even if the law requires them to present such statistics they couldn't show accordingly and this clearly shows absence of cooperation among stakeholders.

**Table 1**

No	General characteristics of Farms and Respondents	Description	Name of the Farms					Remarks
			Sher Ethiopia plc	Herburg Roses plc	AQ Roses plc	Ziway Rosesplc	Braam Flowers plc	
1	Year of establishment		2006	2006	2006	2006	2006	
2	Production area (ha)		500ha	40ha	40ha	40ha	40ha	This production area until February, 2018
3	Types of products		Rose	Rose	Rose	Rose	Rose	These items of production is until February, 2018
4	Ownership		Holland	Holland	Holland	Holland	Holland	
5	Total number of workers		>10,000	1000	1200	1000	1000	This statistics is until February, 2018
		Female	>7000	>650	>800	>700	>700	
		Male	>3000	>350	>400	>300	>300	
6	No. of respondents		360	120	60	60	60	Out of 360 respondents 66% are females 34% are males
		Female	70 (58%)	43 (72%)	45 (75%)	32 (53%)	47 (78%)	
		Male	50 (42%)	17 (28%)	15 (25%)	28 (47%)	13 (22%)	
7	Task (job) of the respondents	Sprayer	37	11	12	15	8	Includes chemical store keepers, mixers & spray supervisor
		Green	41	22	19	20	37	Includes harvesters, cultivators



		house						& seeders
		Packing	31	21	26	17	11	Includes packing, grading & arranging flowers
		Cold room	6	4	2	5	4	
		Others	5	2	1	3	0	Includes maintenance, security, construction & infrastructure installation workers
8	Work experience of respondents	<1 year	43	18	23	15	27	
		1-5 years	69	38	35	44	33	
		>5 years	8	4	2	1	0	

Sources: Data collected from the farms, respondents and EHPEA

Table 2

No	Questions	Possible Response	Number of respondents	By percent (%)	Total
1	Does your employer give attention to safety and health of workers	Yes	101	28%	360
		No	157	44%	
		Don't know	79	22%	
		No response	23	6%	
2	Do you have a regular medical by your employer	Yes	64	18%	360
		No	257	71%	
		Don't know	28	8%	
		No response	11	3%	
3	If yes for question No 2, in what time of intervals do you have checkups?	Every month	0	0%	64
		Every three month	23	36%	
		Every six month	38	59%	
		Every 1 year	3	5%	
4	Have ever experienced any work related health problem during work?	Yes	213	59%	360
		No	45	13%	
		Don't know	59	16%	
		No response	43	12%	
5	Does your employer provide training and awareness creation on safe use/handling of chemicals/pesticides, HIV/AIDS protection, how to use PPE and first aid?	Yes	67	19%	360
		No	219	61%	
		Don't know	56	15%	
		No response	18	5%	
6	Does your employer provide you with PPE like spray suits, gloves, boots, respirator, face shield and others?	Yes	136	38%	360
		No	154	43%	
		Don't know	53	15%	
		No response	17	4%	
7	If yes for question No. 7 how often are they replaced	Every 3-6 month	56	41%	136
		Every year	18	13%	
		Not replaced regularly	42	31%	
		Don't know	13	10%	
		No response	7	5%	
8	Does your employer provide clean drinking water (one of welfare and accommodation facilities)?	Yes	328	91%	360
		No	20	5.5%	
		Don't know	3	1%	
		No response	9	2.5%	
9	Does your employer provide clean toilet (one of welfare and accommodation facilities)?	Yes	282	78%	360
		No	63	18%	
		Don't know	15	4%	
10	Does your employer provide sanitary and washing facilities (one of welfare and accommodation facilities)?	Yes	109	30%	360
		No	233	65%	
		Don't know	10	3%	
		No response	7	2%	
11	Does your employer provide transportation service (one of welfare and accommodation facilities)?	Yes	11	3%	360
		No	340	94%	
		Don't know	9	3%	
12	Does your employer provide recreation centers (one of welfare and accommodation facilities)?	Yes	74	20%	360
		No	215	60%	
		Don't know	57	16%	
		No response	14	4%	
13	How do you rate the working environment of your working area?	Very unsafe	167	46%	
		Unsafe	153	42.5%	
		Very safe	9	2.5%	
		Safe	31	9%	

Source: Data collected from respondents

## 11. Conclusion

Although floriculture sector is one of the newly emerging industries of Ethiopia, it has booming from time to time and ranked Ethiopia the second largest rose producer in Africa. The industry has a vital role on generating employment opportunities, producing foreign currency, expansion of infrastructures and others.

Despite these advantages, there are critics in relation with the impact of floriculture industry on safety and health of workers. This research is mainly investigating impact of floriculture on safety and health of workers. With this respect high chance of workers exposure to chemicals and pesticides were observed. For the workers there is no safety instruction, they are not regularly informed about healthy risks and the necessary precautionary measures they need to take at time of handling or using chemicals or pesticides. The inadequacy and sometimes lack of PPE with their non-regular replacement is also another key problem of the workers. Workers not regularly use PPE, even if they are provided sometimes due to the presence of high temperature in the area and lack of knowledge as to the effect of its disuse to their safety and health. The absences of regular and proper medical checkups for employees were habitual behavior of employers/farms. Absence of training on how to use/handle chemicals or pesticides, awareness on HIV/AIDS protection, proper utilizations of PPE were revealed by the study. The cumulative effects of all these exposed workers to different type of safety and health problems as addressed above.

Institutionally the labour and social affairs offices at both federal and regional level have tremendous loopholes. They have no networking or coordination among themselves; special regional, zonal and woreda labour and social affairs have no enough budgets, motivation and strong institution. There is lack of logistics and experts in these offices.

The employers/farms not concerned about health and safety of workers, and not adhered themselves to the laws and code of practice made to safeguard rights of workers. Employers/farms seldom report occurrence of employment injury to concerned body and not working as required by law. The government failed its obligations to protect its citizens from violation of their safety and health rights by farms.

Due to these facts, we can strongly argue that workers safety and health, which equals with their human right to health, is in danger and needs to be given due attention.

## 12. Recommendation

Any development or civilization cannot be attained at the cost of or by scarifying the human rights of citizens. Even these weaknesses might hamper the future growth of the sector if they are not quickly addressed. Because of wide range of deficits, no single initiative may effectively and efficiently resolve the occupational safety and health problems workers experienced. Based on the findings of the study, the following actions should be taken to promote and enhance the right to safety and health of workers.

As a matter of urgency, the government shall intervene and investigate the working condition of those flower workers, and shall enforce those relevant international, regional and domestic laws to protect and promote safety and health of workers.

The provision of PPE with the necessary quality and its regular replacement should be provided by the employers to

employees.

Proper training on how to use/handle pesticides/chemicals, awareness on the protection of HIV/AIDS, how to use PPE shall be provided by employers to employees.

Regular medical checkup shall be provided by employers to employees within provided period of time to maintain the wellbeing of workers.

Workers should be aware or made to know their fundamental right in relation to working condition, which help them to exercise their right without waiting external bodies.

Strengthening and enhancing implementation capacity of labour and social affairs organs with allocation of enough budget, qualified experts, and etc.

There should be good networking or coordination among Federal- Regional- Zonal- Woreda labour and social affairs office while discharging their mandate.

Regulation on the code of practice of the floriculture sector No. 207/2011 shall be awaked from the edge of death and should implement soon.

Nongovernmental organizations should take active role of creating awareness on occupational safety and health to the workers and further advocate for those who have incur employment injury.

Further research on occupational safety and health of floriculture workers on those flower farms found in other areas shall be made to have general and uniform understanding about the issue.

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