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COLLEGE OF DEVELOPMENT STUDIES

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A SUSTIANBLITY ASSESEMENT OF FLOWER FARMING INDUSTRY. THE CASE OF OROMIYA REGIONLA STATE OF ETHIOPIA

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A SUSTIANBLITY ASSESEMENT OF FLOWER FARMING INDUSTRY: THE CASE OF OROMIYA REGIONLA STATE OF ETHIOPIA

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This is to certify that the thesis entitled “A Sustainability Assessment of Flower Farming Industry: The Case of Oromia Regional State Ethiopia.” submitted in partial fulfillment of the requirement for the degree of Master of Art in Environment and Sustainable Development from Addis Ababa University, and is a record of original research carried out by NetsanetFikadu Id. No. GSE/5200/09, under my supervision, and no part of the thesis has been submitted for any other Degree or Diploma. The assistance and help received during the courses of this investigation have been duly acknowledged. Therefore, I recommended that it be accepted as fulfilling the thesis requirement.

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Abstract

This thesis looks in to a sustainability of flower farm industry in Oromia regional states of Ethiopia .The general objective of the study is to assess the sustainability of flower Farm Company's. The analyses of the study were made use of both primary and secondary data. The primary data were collected from 62 sample flower farm employees in selected two flower farms. The secondary data, on the other hand, were collected from different libraries, documentation centers and online sources.

The study discussed economic implication of flower farm to the employee, social responsibility of the company and its impact on the environment. In the economic dimension wage satisfaction, receiving a bonus or deduction, promotion possibility and other benefit were realized. In the social dimension corporate social responsibility of the company were discussed .The study also discussed the environmental impact of flower farm industry by investigate the companies activity on chemical and fertilizer usage, liquid waste disposal mechanism ,environmental management plan , and sustainable use of resources .

Across the economic implication employees are less satisfied by the salary they earn .Even though, they are getting either monthly or yearly based bonus, but its linked with their sick leave record and mistake they did .so that its lead them to deduction of their income .In respect to the social responsibility, companies are practiced on responsible manner .However the environmental dimension still not in the acceptable situation. They are using excessive inorganic chemical and fertilizers which has strong negative impact on the environment and the human health and other non-targeted living things. Optimum resource utilization and recycling also less practiced.

Therefore, in order to assure the sustainability of the flower farm industry and the benefit of the country as well, it's suggested that the sector need strong follow up by the regional environmental protection authority and the stockholders involvement like Ethiopian horticulture producers and exporters association and Ethiopian investment commission is highly recommended.

Key words: Sustainability**,** Impact of Floriculture Industry, Flower Farm Employee, Environment, Social, Economical

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List of Tables

Table 1 List of economic, social and environmental factors

Table 2 Hazardous pesticide use in Ethiopia

Table 3 Demographic characteristics of flower farm employee

Table 4 Family size of employee

Table 5 Employee gender profile and responsibility in the family

Table 6 Distribution of workers by their literacy status

Table 7 Overview of the respondent

Table 8 Employee working experience, working hour and monthly salary

Table 9 Living wage and statutory minimum wage

Table 10 Monthly salary and expenditure

Table 11 Additional benefit of employee

Table 12 Effect of flower farm activity in the environment

Table 13 Frequency of water used per day

Table 14 Corporate social responsibility of company

List of Figure

Figure 1 Concentric circle model

Figure 2 Graphic description of triple bottom line

Figure 3 Relationship 3P frame work

Figure 4 Fiscal incentives

Figure 5 Conceptual frame work of the study

Acronyms

CS:	Corporate Sustainability’
CSR:	Corporate Social Responsibility’
EFPA:	Ethiopian Flower Producer Association
EHPEA:	Ethiopian Horticulture Producer and Exporters Association
EU:	European Union
FDI:	Foreign Direct Investment
FFFP:	The Fair Flowers Fair Plants
FLO:	Fair-trade Labeling Organization
FLP:	The Flower Label Program
GlobalGAP:	Global Good Agricultural Practice
HVAEs:	High-Value Agricultural Exports
ICC	International Code of Conduct
IFIs:	International Financial Institutions
ILO:	International Labor Organization
PASDEP:	Plan for Accelerated Sustainable Development to End Poverty
TBL:	Triple Bottom Line
USD:	United States Dollar
WHO:	World Health Organization

DEDICATION

To the memory of my mother, Beletu Marota

Abstract v
Acknowledgment vi
List of Tables vii
List of Figure viii
Acronyms ix
CHAPTER ONE: INTRODUCTION 1
1.1 Background of the Study 1
1.2 Statement of the problem 3
1.3 .Objectives of the Study 5
1.3.1 General Objective 5
1.3.2 Specific Objective 5
1.4 Basic Research Questions 5
1.5 Significance of the study 5
1.6 Scope and Delimitation of the study 6
1.7 Ethical consideration 7
1.8 Organization of the paper 7
CHAPTER TWO: REVIEW OF LITRATURE 8
2.1 Definition of concepts of sustainable development 8
2.2. Indicators of Sustainable flower farm industry 10
2.3. Environmental factors related to flower farm industry 10
2.4. International Environmental Regulations and market Standards 13
2.5. Consumer Labeling Schemes 14
2.6. Self-regulatory systems: Ethiopia Horticulture Industry code of practice 16
2.6.1 Social factors related to flower farm sustainability 16
2.6.2 Social and Environmental Standards of Floriculture Sectors 18
2.6.3 Economical factors related to flower farm industry 20
2.6.3.1 Flower trade and economic development 20
2.6.3.2 Fiscal incentives for the Booming of the sector 23
2.7.1 Current Overview of horticulture sector in Ethiopia 24
2.7.2 International standard regulation system 25
2.7.3 Social, economic and environmental standards in Floriculture 25
2.8 Structure of Literature review 26
2.9 Conceptual Framework of the Research 26
CHAPTER THREE: RESEARCH METHODOLOGY 28
3.1.1 Study area description of Farm A 28

3.1.2 Study area description of Farm B 28
3.1.3 General description on company's current status 29
3.2 Research Design 29
3.3 Study population and selection 30
3.4 Data source and type 31
3.5 Sample size determination and sampling technique 31
3.6 Organization of Field work and Data Collection tools 32
3.7 Method of data analysis 33
CHAPTER FOUR: RESULT AND DISCUSSION 34
4.1 Background on economic implications of flower farms to the employee. 34
4.1.1 Demographic characteristics of sample employee 34
4.1.2 Working Condition 39
4.1.3 Different benefit to the employee beyond salary 44
4.2 Social implications of flower farms. 47
4.2.1 Effects of flower farm activity in the environment 47
4.2.2 Method of floral waste disposal 49
4.2.3 Foliar Fertilizer application 49
4.2.4. Time of pesticide application 50
4.2.5 Expired chemical and Fertilizer treatment 50
4.3 Social Responsibility Assessment 52
CHAPTER FIVE: CONCLUSSION AND RECOMMENDATION 55
6. References. 58

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Floriculture can be defined as "a discipline of horticulture concerned with the cultivation of flowering and ornamental plants for gardens and for floristry, comprising the floral industry." It can also be defined as "The segment of horticulture concerned with commercial production, marketing, and sale of bedding plants, cut flowers, potted flowering plants, foliage plants, flower arrangements, and noncommercial home gardening." (Getu, 2009, as cited in Gudeta, 2012).

Floriculture as an industry began in the late 1800's in England, where flowers were grown on a large scale on the vast estates (Wikipedia, 2009). The industry continues to advance since that period. It is a profitable agri-business throughout the world. The present day floriculture industry is very dynamic and fast growing. In the 1950s, the global flower trade was less than 3 billion USD. By 1994, it had grown to 100 billion USD. In recent years, the floral industry has grown six percent annually, while the global trade volume in 2003 was US$101.84 billion (Wikipedia, 2009). Experts believe that the production focus has moved from traditional growers to countries where the climates are better and production and labor costs are lower. This has resulted in a paradigm shift in the floral industry. The Netherlands, for instance, has already shifted attention from flower production to flower trading, though it plays an important role still in the development of floricultural genetics. The new centers of production are typically developing countries like Ecuador (the biggest producer and export of roses worldwide), Colombia (second largest exporter in the world and with a market of more than 40 years old), Ethiopia, Kenya, and India. Other players in this global industry are Israel, South Africa, Australia, Thailand and Malaysia. New Zealand, due to its position in the Southern Hemisphere, is a common source for seasonal flowers that are typically unavailable in Europe and North America.

The floriculture industry is also among the priority export product and fastest growing sectors in the Ethiopian economy and has given the country's export sector an alternative export commodity to the traditional predominant export of coffee. Floriculture has shown dramatic expansion since the turn of the new millennium. In 2002, there were only five floriculture farms in the nation. In Africa, Ethiopia is now Africa's second largest flower exporter after Kenya, with its export earnings growing by 500% over the past year. This has left Kenya stunned, given that five years ago, the Horn of Africa country was doing

less than $20 million of exports compared with the East African giant's $300 million. It is estimated that, this year, Ethiopia will close its books at $120 million, slightly less than half of Kenya's earnings. 'It has taken Ethiopia five years to achieve half of what we have in three decades,' …Going by this rate, Kenya could be overtaken by Ethiopia in a decade.

According to the report from Ethiopian Flower Producer Association in the 18/19 physical year horticulture sector employed 199,640 workers (EPHIA 2018). It contributes major share of the national economy by setting its export earning to 307.04 million USD. In 2008, Ethiopia has earned 186 million USD from horticulture exports out of which 80 percent was generated by flower (Getu, 2009). According Ethiopian Horticulture Producer and Exporters Association (EHPEA) in 2010 Ethiopia is an ideal place for the production and export of flowers, vegetables, fruits and herbs. Such suitability of the country helped to bring exponential growth of export in the last seven years, making Ethiopia the fourth largest supplier of flower to the world market. Noticeable achievement has also been observed in the export of vegetables, fruits and herbs. The revenue of the sector has grown by 25 percent from 2008, following the global economic and financial crisis (Hortiflora Magazine, 2011).

The free market policy of Ethiopia encourages local community based private oriented industrialization because it helps for macroeconomic stability, rural poverty reduction and fast national economic growth. Economic growth can be manifested in the form of availability of rural income source, better job opportunities, free technical and modern ideas transfer and so on. Specially, increasing non-farm employment opportunities for rural people has potential to reduce the risk of food shortage during periods of unexpected crop failures through food purchase (Zelaem, 2007:2; Fikiru, 2008: 1).

Therefore, in order to reduce household poverty, establishment of an industry in a given locality could have positive effects on the surrounding community livelihood. More specifically, the provision of employment to the surplus labor is one of the fundamental concepts behind its economic implication. The money collected via salary or wage circulates with in a village economy could also initiate petty trade in the locality (Waker, 1992).

Meier (1995) identified that the surrounding community could benefit from the infrastructure built by industry for its own purpose. Furthermore, he indicates that creation of forward and backward linkage with the industry is another opportunity. However, in order to materialize these benefits, relevant involvements of all stakeholders of the industry is determinant factor. These stakeholders include government, the private sector and local community at large. More importantly, prior to establishment of

an industry in a given location, considering the physical setting and socioeconomic situation of the people helps for identifying mutual benefit of both the industry and local community (Chapman and Waker, 1992).

The Federal Government of Ethiopia has encouraged the export of horticulture sector, including the floriculture. As a result, an attractive investment package such as duty free import of machinery and capital items, easy access to bank loan, tax holiday for 5 years, and lease of land with basic infrastructure like electricity, water supply, and telephone, at low prices are offered for the investors in floriculture industry, favorable agro-ecological condition, abundant and cheap labor has also facilitated expansion of the floriculture industry. Among the resources which make Ethiopia favorable for floriculture development is water and irrigable land resources which the country has and the flower needs in abundant.

However, many Ethiopian environmental activists still argue that environmental policies or standards, labor regulations are not implemented by many companies within the industry as per the standards provided by the government. These concerns are related to labor right like working condition (Belwal & Meseret, 2008). One of the issues which floriculture industries worldwide commonly blamed is unsafe working conditions of floriculture farm laborers associated to massive chemical usage of the industry. International environmental and workers' advocacy groups charge the floriculture industry which grows cut flowers in greenhouses with exposing laborers to dangerous pesticides, with failing to provide health safeguards, and with damaging the environment from over use of nature resources. From a study made in Colombia, even if the industry provides jobs, and in particular jobs to segment of the Colombian population that does not have access to jobs very easily, or to jobs that pay well, the economic gains may still come at a cost to worker and environmental health (David, 2002)

1.2 Statement of the problem

As Tewudros (2010) asserted, the importance of the private sector in Ethiopia can be seen in terms of employment generation, innovation and creativity, proper use of both human and physical resources and maintaining economic independency of the country. Among those private sector flower farm industry is the dominant one in Ethiopia. In order to drive these benefits, the government has created an enabling environment through provision of incentive package such as custom clearance, removing institutional bottlenecks, and strengthens financial and banking services to encourage both domestic and foreign investors. As a result, the strong initiative of the government helps to generate foreign currency and

employment opportunities from private investments. Specifically, young unemployed citizens, particularly women have been able to take advantage of employment opportunities arising from the introduction and growth of the cut-flower industries in Ethiopia (MoFED, 2006; Daniel, 2009; Tewdros, 2010).

However, labor and foreign currency advantage of the sector overshadow the socio economic and ecological costs of the sector. Consequently, crate a sustainability gap between country economic benefit and its adverse impact on the environment and social aspect. As a result sector brings negative impact on the environment like exploitation of resources, improper waste disposal and lack or less attention given to environmental protection activities. On the other way round expansion of flower farming industry also blamed by their miss practice on the social right of their employee or the surrounding community.

Government officials and different studies suggest that the environmental and social impact of the sector is less compared to its economic benefit while others persuasively argue that it has environmental and social impacts (Fatima, 2007). Moreover, as Frank and Cruzl (2001) asserted, even if the floriculture industry is taken as solution for economic development and generation of employment during the last three decades in developing countries, advantages of the sector are at socio-economic and environmental cost of the local people.

So far, some attempts have been made to document on impact of floriculture industry. Among those studies done by Mulugeta Getu (2009) the substances used for flower production , like nitrate, which are found in fertilizers and pesticides, are hazardous for the environment. The impact of pesticides on the environment includes degrading water and soil quality, adverse effect on non-targeted lives (such as soil organisms).

However, there is little or no research work done about the sustainability of flower farming which compiles environmental, economic and social impacts of the sector while they explain about either the environment only or the social dimension separately.

Therefore, in order to assure the sustainability of flower farming business and its economic support to Ethiopia potential studies should promote by which able to balance social and environmental cost of the industry together with its benefit to the country.

1.3 .Objectives of the Study

1.3.1 General Objective

The general objective of this study is to assess the sustainability of a flower farm industry in the Oromia regional state.

1.3.2 Specific Objective

The study aims to meet the following specific objectives:

- To analyze the economic implication of flower farms to the employee;
- To assess the farm corporate social responsibility;
- To identify the impact of flower farm industry on the environment;

1.4 Basic Research Questions

The purpose of this study is to answer the following basic research questions which are derived from the specific objectives.

- Does the flower farm industry have an economic implication to the employees?
- What corporate social responsibility does the flower farm own?
- What is the impact of the flower farm industry on the environment?

1.5 Significance of the study

Analyzing the sustainability of business-oriented flower farm industries has a great role for the stability of economic advantage to the country, safeguarding of the project activity as well as socioeconomic benefit to the community and finally will play great role to the implementation of poverty reduction strategy of the Ethiopia.

This study was carried out for academic purpose and undertaken only in two flower farms. However, the major significance of this research is to have outlook flower farm industry from the perspectives of three pillars of sustainable development which are socially acceptability, economic worthiness and environmentally friendliness of export-oriented business sector.

Therefore, this study thought to give strong insight on the sustainability of the farm which helps to foster countries economic benefit as well as it identify the company strength and weakness on the sustainable

manner. Based on the result of this study the companies can identified their limitation that hinder them from profitability and hardly work on the existed gap to fulfill the requirement from the sector regulation and able to be competitive company in the international flower trade.

The study also can be source of information for academic purpose or future planned research to work on flower farm sustainability assessment. In general result of this study suggest the possible way of action for the balanced relation between those advantage and negative impact of flower farming industry's as well as looking through the way to reduce or avoid those adverse impacts and ensure project sustainability.

1.6 Scope and Delimitation of the study

Flower farming company has economic advantage to the country as well as for the employee. However this study only focused on employee economic benefit. In order to study country level economical advantage of flower farm company it were necessary to access financial figure of the company from the finance department and also from the regional government customs office . However this was impossible via the allocated cost and time budget . In addition to that company's finance department were not allowed to give financial figure of company.

The next drawback of the study is that, according to the information acquired from EPHIA currently there are around 160 active flower farms in Ethiopia .However the research was done only two farms . To overcome this limitation, strong focus was gave to quantitative and qualitative findings in order to access economic benefit of company to the employee salary as well as other benefit . The very rich qualitative findings presented throughout this thesis along with interpretation of the quantitative survey data generate valid and substantive results to elicit a valid conclusion.

Additionally, the study had limitation like lack of commitment from community members for the interview in order to collect relevant data, negligence behavior of respondents to return the questioner result sheet, language barriers, adequate time and financial related constraints had been occurred. However, with all its limitations the finding of the study can be serve as a an indicator for the source of linking the business-oriented flower farm industries together with sustainability of the sector and also can be good data source for those want to conduct similar sustainability assessment study of flower farming industry .

1.7 Ethical consideration

The study was conducted in an ethical manner. The farm managers are requested their permission to undertake the survey and the respondents were explained the purpose of the study and they were assured that the information given was treated as confidential and their names were not be divulged. The researcher recognized that the issue under study was sensitive because it involved the relationship between an employee and the employer. Therefore, there was need to protect the identity of the respondents as much as possible. This means that the questionnaires did not require the respondent's names or details that may reveal their identity.

1.8 Organization of the paper

This paper is organized into five sections. The first section is given to present the introduction where, it highlights on background to the study, statement of the problem, objectives of the study, scope and organization of the study. Part two emphasis on review of relevant literature, basic concepts related to the topic of study, and conceptual framework upon which the study is embedded. Part three emphasizes mainly on the broader methodological approaches, focusing on description of the study area, research design and justifications, sampling techniques and sample size, sources and types of data, instruments of data collection, and methods of data analysis. Section four presents result and discussion and the last section focuses on conclusions and recommendations.

CHAPTER TWO: REVIEW OF LITRATURE

2.1 Definition of concepts of sustainable development

In order to frame this research around the concept of sustainable development, it is necessary to define what we understand by the term. Since the 1980s there has been a growing debate around the meaning and practice of sustainable development. The most commonly accepted definition is that of the World Commission on Environment and Development, also known as the Brundtland Commission, which states that development must meet the "needs of the present without compromising the ability of future generations to meet their own needs" (World Commission on Environment and Development 1987, p. 8).

Concentric circle model- The basic concentric circles model (Mitchell, 2000) is one of the sustainable developments models that contain more levels of subsystems; the largest circle is the natural environment which encapsulates the subsystem of human society, which in turn encapsulates the subsystem of the economy (see Figure 1). In essence, the concentric circles model is each circle is constrained (i.e. the development of the economy is constrained by the society in which it is found which is constrained by the ecological limitations of energy and other natural resources available to the society).The main concept of concentric circle model is to identify the interdependency between the three aspects of sustainable development. any development activity or industry can be sustainable if and only if can balance the element of each circle .Even if the large circle environment contain the two smaller circles society and economy ,they need an equal attention for all the systems .However the environment constitute the social system and economy .

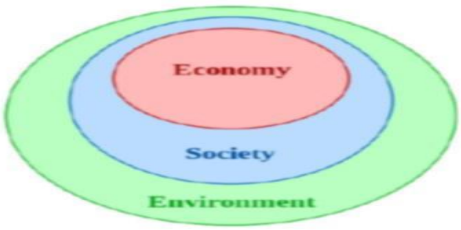

Figure 1 .Concentric circle model from Moore (2000).

Triple Bottom Line and the relationship with CS and CSR -Corporate Sustainability' (CS) is the ultimate goal with 'Corporate Social Responsibility' (CSR) as an intermediate stage. This is where companies try to balance the Triple Bottom Line (TBL) according to Lassi Linnanen and Virgilio Panapanaan from Helsinki University of Technology (Marrewijk, 2003).

Figure 3: Relationship 3P framework, CS and CSR (Wempe and Kaptein 2002 in Marrewijk 2003)

The three bottom lines represent the social, environmental and economic dimension, also called the three P's. These can be translated into the 'Corporate Social Responsibility' (CSR). Companies should prepare the different bottom lines to create sustainability, see figure 3. One is the bottom line of a company's "people account". This is a measure in some shape or form of how socially responsible an organization has been throughout its operations. The second bottom line is the company's "planet" account. This is a measure of its environmental responsibility. The third bottom line is also the traditional measure of corporate profit. This bottom line refers to profit making and attaining and sustaining competitive advantages. It aims to measure the financial, social and environmental performance of the corporation over a period of time. A company that produces a TBL is taking account of full cost involved doing business (Hindle; 2008, Wikepedia; 2012).

However, CSR and CS have separate paths. Sustainability relates to the environment and CSR refers to social aspect, such as human rights. Now many researchers consider CS and CSR as synonyms (Marrewijk, 2003).

The present report sees sustainable development as the combination of a type of economic development that is ecologically sustainable and which ensures a decent level of welfare for all members of society. Furthermore, economic profits need to be addressed as a way to look beyond mere economic growth and observe the holistic impact of economic and business practices (Pezzey 1989 & Jones and Klenow 2010). Therefore, the concentric circle model definition will serve as the operational definition of sustainable development in case of floriculture industry.

2.2. Indicators of Sustainable flower farm industry

As discussed in the above chapter, this section of the study takes into account factors or potential indicators under economic, environmental and social dimension of flower farming companies (see table 1 for an overview).

Table 1. List of factors under the category of economic, social and environmental indicators

Economic factors	Environmental factors	Social factors
Wage satisfaction/Fair wage	Chemical and fertilizer application	Availability and practice of corporate social responsibility
Receiving a bonus	Solid waste disposal	Social acceptance of farm
Receiving a deduction	Environmental management plan	Job security
Promotion possibilities	Sustainable uses of resources	Availability and freedom to join workers union
Other benefit		Uses of protective materials

2.3. Environmental factors related to flower farm industry

A. Chemical and Fertilizer use

Mostly business oriented flower farming company's used inorganic chemical and fertilizer for the aim of improving production and preventing flowers from different plant disease.

However this positive impact of using of artificial chemical and pesticides have also negative impact on the environment. This is mainly caused by using of un allowed chemicals by the authorized person, misused of product and too much amount application without making research or further examination of the plant as well as the land .According to this WHO have the list of chemical and there level of hazardous to clearly identify in which level is found the given chemical is.

Pesticides and fertilizers used in the normal course of growing plants are the most important potential threats to groundwater. Pesticides having high leaching potentials, high surface loss potentials, or which are persistent in soil are of greatest concern. Method of application, pesticide formulation, soil type, and microbial activity in the soil are some other factors which affect how much chemical may reach the groundwater (Hengsdijk and Jansen, 2006).

According to Abiy (2011) While development has been reported in application of chemicals largely due to awareness of workers, pressure from labor unions within the farms, and directives of the Ministry of

Agriculture, there are still some hazardous chemicals that are still in use (see table 1) Class 1a extremely hazardous and class 1b highly hazardous categories of the WHO that are still in use in the Ethiopian flower industry.

Table 2: Hazardous Pesticides use in Ethiopia

Commercial Name	**Use**	**Hazard**	**WHO**
Aldicarb	Insecticides/nematicides	Extremely Hazardous WHO	WHOIa
Ethoprophos	Insecticides/nematicides	Ethoprophos Insecticides/nematicides Extremely Hazardous WHOIa	Ethoprophos Insecticides/nematicides Extremely Hazardous WHO Ia
Cadusafos	Insecticides/nematicides	Highly Hazardous	WHO Ib
Carbofuran	Insecticides/nematicides	Highly Hazardous	WHOIb
Dichlovos	Insecticides/nematicides	Highly Hazardous	WHOIb
Fenamiphos	Insecticides/nematicides	Highly Hazardous	WHOIb
Methomyl	Insecticides/nematicides	Highly Hazardous	WHOIb
Monocrotophos	Insecticides/nematicides	Highly Hazardous	WHOIb
Omethoate	Insecticides/nematicides	Highly Hazardous	WHOIb
Oxamyl	Insecticides/nematicides	Highly Hazardous	WHOIb

Source: WHO chemical hazard category

B. Floral Waste generated and disposal mechanism - Flower farming company's generated different types of wastes during overall production activity .Those generated wastes can be classified in to solid and liquid .However this study only focused on an important solid wastes category floral wastes which have significant positive or negative impact .It's very rare to get hundred present product from the production of flower farm .Since the main goal of investing on flower farming is to export through out of the world farms should delivery standard quality of flower in order to be competitive in the world market .For that reason there are a lot of flower stem rejected due to quality defect . Dried and decayed flowers are considered waste material and thus, dumped in landfills, various water bodies, etc. Such disposal of floral waste creates problems like eel and worm development, water and land pollution and foul odor. Solid waste and littering can degrade the physical appearance of water bodies and cause deterioration of water quality.

There is different mechanism to manage rejected stem like landfilling; incineration which is controlled combustion of waste materials to a non-combustible residue or ash and exhaust gases and biotechnological process of composting, in which certain species of earthworms are used to enhance the process of waste conversion and produce a better end product called Vermicomposting (Gandhi et al. 1997).

It is a mesophilic process, utilizing microorganisms and earthworms that are active at 10–32°C (not ambient temperature but temperature within the pile of moist organic material). The process is faster than composting; as the resulting earthworm castings (worm manure) are rich in microbial activity and plant growth regulators, fortified with pest repellence attributes and are capable of transforming garbage into gold‘ (Adhikary, S. (2012), Tara Crescent 2003). The vegetable market waste is the leftover and discarded rotten vegetables, fruits, and flowers in the market. This urban waste can be converted to a potential plant nutrient enriched resource compost & vermicompost that can be utilized for sustainable land restoration practices (S. Suthar and S. Singh, 2008).

C. Environmental management plan –The main purpose of environment management plan is to identify the company adverse impact on the social or environmental resources and finding the best mitigation activity, working on the implementation and finally ensure the sustainability of flower farming.

The availability and strong implementation of environmental management plan also serve as the business competition strategy by making the farm competitive in world flower market.

D. Uses of protective materials

With the expansion of the floriculture industry, there is a growing concern as to its adverse effect on the national environment. Ato Tsegaye Abebe, Head of EHPEA, is aware of this concern and stated that, “When any new sector is introduced into a country there are inevitably concerns about the impact of the sector on the local environment….” (Mulugeta, 2009).

The only alternative to chemical/artificial fertilizers is the use of organic cultivation. Nitrogen in fertilizer can produce nitrates, which can be washed away from fields by rain or irrigation, eventually finding their way to water bodies and soil. Water pollution, soil and water quality degradation, human and cattle health effects, air pollution, risk on aquatic life, as well as water logging and Stalinization are only a few of the undesired impacts (Mulugeta, 2009).

Pesticides (which include herbicides, insecticides, fungicides and more) can contaminate organisms, soil, water, turf, and other vegetation. It is estimated that less than0.1 percent of the applied pesticide reaches the target pest, leaving 99.9 percent as a pollutant in the environment, including the soil, air, and water, or on nearby vegetation.

The adverse effect of pesticide use includes degrading water and soil quality, effect on non-targeted lives like soil organisms, aquatic life, human beings, insects, cattle etc, air pollution, an increase of pesticide resistance by targeted pests (Mulugeta, 2009)

E. Sustainable use of resources

Ever since the start of industrialization - or in fact, even before that - there has been a constantly growing use of finite resources. If we continue at the same rate, it will soon be another planet that we shall need Sustainable use of resources is therefore absolutely vital for the future.

2.4. International Environmental Regulations and market Standards

International investment has played a pivotal role in the growth of the floriculture industry in Ethiopia (Helder & Jager, 2006). Additionally, because the majority of flowers are exported, increased consumer demand for sustainably produced flowers has had an indirect impact on environmental regulations in the industry.

The Dutch government has promoted initiatives to help improve the environmental sustainability of the industry through a market-based approach (Helder & Jager, 2006). They increase awareness of the supply chain and help to create cost-effective, sustainable, and socially acceptable forms of production (Helder & Jager, 2006). Consumers have become increasingly concerned with the environmental and social impacts of floriculture production due to media pressure, social pressure, and NGO campaigns (CBI Market Information Database, n.d.; Rikken, 2010). The Netherlands, Supermarkets, and NGOs took initiatives for market labeling and certification programs to address this concern, and these schemes are now institutionalized under the EU (Gebreeyesus & Sonobe, 2012).

Two broad types of international regulatory certification schemes currently exist: the business-to-business certification scheme, a marketing tool between the producer and the EU buyer (Rikken, 2010), and consumer certification schemes, which are labels for environmentally sustainable production that target consumers (CBI Market Information Database, n.d.).

Business-to-business certifications (BBC)-Business-to-business certifications address the environmental concerns of the industry, but are not marketed to the consumer (CBI Market Information Database, n.d.).

The International Code of Conduct (ICC)-Is a general certification scheme developed in 1998 by European Union NGOs and trade unions (CBI Market Information Database, n.d.). It creates standards for sustainable production of cut flowers and better working conditions. This includes giving workers a living wage, banning child labor, allowing work unions, creating health and safety standards, and reducing pesticide use (CBI

Market Information Database, n.d.). The standards created in the ICC are integrated into other EU certification programs (CBI Market Information Database, n.d.).

GLOBALG.A.P. -In 2003, GlobalGAP was created by a coalition of large European supermarket chains (Rikken, 2010). It creates voluntary standards for a wide range of products such as fruits and vegetables, flowers and ornamentals, and coffee and tea (Gebreeyesus & Sonobe, 2012). This certification program includes sustainability values, but is relatively undeveloped in the flower market (CBI Market Information Database, n.d.).

MPS Sustainable quality-In 1995, the Milieu Project Sierteelt (MPS), or "Floriculture Environmental Project" was created by the Netherlands to encompass food safety, labor, and environmental concerns while offering products and services that relate to the environment, quality assurance, and social aspects at a national and international level (Rikken, 2010). This allows horticulture companies to profile themselves as socially responsible firms for their customers, the government and society" (MPS, 2012). Although this program was established in the Netherlands, it is well-known worldwide. The Dutch promote this certification because it fosters environmental and social sustainability as well as creates financial advantages for complying companies (CBI Market Information Database, n.d.).

MPS-Florimark-Within MPS, there are many different certification schemes. MPS-ABC is the environmental certification with three qualifications: A, B, and C, with A being the most environmentally-friendly cultivation (CBI Market Information Database, n.d.). These certifications are awarded based on the use of pesticides, fertilizers, and energy (MPS, 2012). To date, fifteen Ethiopian floriculture companies have reached the MPS-A level of certification (MPS, 2012). MPS-GAP is a program of certification based on the requirements of retailers. This is the equivalent of the GlobalGAP program (Rikken, 2010). MPS-Socially Qualified (MPS-SQ) is a social certification program that requires good working conditions for workers (MPS, 2012; CBI Market Information Database, n.d.). MPS-Quality is the certification where produceers assure consistant quality of their products to their buyers (CBI Market Information Database, n.d.). Finally, once a grower meets all of the certification standards above, they receive the MPS-Florimark Production certification. This is the top sustainability and quality level a floriculture producer can attain (MPS, 2012).

2.5. Consumer Labeling Schemes

A second international source of environmental regulation of the floriculture sector is a consumer-labeling scheme, used to inform consumers about the production and source of the flowers they purchase (Rikken,

2010). These labels are printed on the product packaging to inform consumers (CBI Market Information Database, n.d.). The three major flower labels are the Fair Flowers Fair Plants (FFP) label, Flower Label Program (FLP), and the Fairtrade Labeling Organization, Max Havelaar (FLO) label (Rikken, 2010).

Fair Flower fair plant -The Fair Flowers Fair Plants (FFFP) is an environmental and social labeling scheme that is based on both the ICC and the MPS-A (Rikken, 2010). The goal of this label is to create a uniform global standard for the floriculture industry to regulate pesticide use, energy use, and working standards (CBI Market Information Database, n.d.). This consumer label requires companies to meet the MPS-SQ and the MPS-A, and if the company complies with both, a FFFP label is attached to their product to guarantee a high level of environmental and social standards (Fair Flowers Fair Plants, n.d.; Rikken, 2010). The FFFP requires an initial audit of the company, and then regular reporting to ensure that they are meeting the criteria (Fair Flowers Fair Plants, n.d.).

Flower label program -The Flower Label Program (FLP) is a labeling scheme that was created in 1996, but has still not been fully established in the floriculture market (Rikken, 2010). Only 3% of the cut flower market is FLP-certified (CBI Market Information Database, n.d). Although this number is low, this labeling scheme is successful in creating social standards based on the ICC as well as environmental standards (CBI Market Information Database, n.d.). The companies that follow the FLP are able to sell their products with the FLP label (Rikken, 2010).

Fair trade-The final labeling program that applies to the floriculture industry is the Fairtrade Labeling Organization, Max Havelaar, (FLO), which was created in 1997 (Rikken, 2010). This label system creates social 'fairtrade' standards. This mostly involves protecting and benefitting workers by certifying that farms have good and safe working conditions and workers receive decent wages (Rikken, 2010). Environmental standards of this fair trade label are much less specific (CBI Market Information Database, n.d.). Importers must pay a 10% fair price premium on top of the export price for this FLO (CBI Market Information Database, n.d.).

Rainforest Alliance -Rainforest Alliance is an international non-profit organization and eco-label. Eco flowers under the rainforest label stand for biodiversity conservation and sustainable livelihoods, and working to solve urgent environmental and social challenges. This program is less practiced in Ethiopia and till now only one flower farm able to certify by RFA.

2.6. Self-regulatory systems: Ethiopia Horticulture Industry code of practice

Industry specific self-regulatory systems that with labor related provisions commonly referred as code of practice are among alternative mechanism proposed in the debates over improving core labor standards internationally (Hale & Opondo, 2005, Leipold & Morgante, 2013). The EHPEA code of practice for sustainable flower production is among developing countries standard initiative that has been developed in producer country as opposed to the majority of private social standard initiatives that have been developed in Europe and North America (Rikken,2010). The code of practice is among standard initiative Global GAP (Good Agricultural Practice) equivalence that has been developed in producer country (Rikken,2010).

The code of practice came in to effect in 2007 and serves as a guideline for Good Agricultural Practice (GAP) to horticulture producers and exporters in the country (EHPEA, 2011). It has a Strong focus on core aspects of sustainable agricultural practice mainly environmental protection and flower workers safety and employment practice (ibid). According to the Ethiopian horticulture and producers' association manager the code has labor related provisions based on ILO's fundamental Labor standards. The code of conduct is part of the association's initiative to put the industry up to the requirements of international marketing requirements. It has three levels: Bronze, Silver and Gold. The Bronze level was introduced first in order to get all flower farms in the country to meet basic standards and obtain EHPEA Code of Accreditation (Rikken, 2010, EHPEA, 2011).

In implementing the code of conduct the association took a leading role and undertakes capacity building and training programs for its member (EHPEA, 2011). On-site inspections and independent external audit are also used as tools for monitoring progress. The audit is conducted by Control Union Certification (CUC), a global network of inspection and certification programs (Rikken, 2010). Nonetheless the association manager confirmed not all flowers farms in Ethiopia participate in onsite inspection and audit program which raises concern over the working conditions of in such farms. Even among participating farms differences exist in the quality of management systems that might affect their compliance with the code of conduct. Studies from other countries indicated that codes of practice are most often unknown, unavailable or not translated at production sites (Leipold&Morgante, 2013, Rissgaard, 2009).

2.6.1 Social factors related to flower farm sustainability

According to Gibbon (2005), North Americans may be buying funeral flowers with a heavy social cost for floriculture industry workers. Internationally, flower growers sometimes use child labor and frequently

fail to pay workers a living wage. In addition, flower industry workers are often insufficiently protected from the effects of extensive exposure to pesticides. Over half of the Costa Rican and Ecuadorian flower workers exhibit at least one symptom of pesticide poisoning, and female Colombian flower workers experienced moderate increases in the rate of miscarriages and birth defects (Smith, et al, 2004).

During review of environmental and economic sustainability, there are some issues that are related to social sustainability directly or indirectly which concern to the society. Besides the above mentioned social sustainability issues, employees related problems are repeatedly mentioned. Negligence of employee's safety, health and their right is another matter. Their working condition is very poor. Workers are exposed to hazardous pesticides without wearing any kind of protecting materials.

In a study done by Afro Gadaa (2010) indicated that , Workers have no collective bargaining power because they have been forbidden from forming trade unions according to Ato Tariku, General Secretary of the Ethiopian Confederation of Labour Unions. He described one instance where workers were even fired from one flower farm when they tried to form a union to ensure safe working conditions. The expanding rate of the flower farm and compensation since the beginning of flower production in the year 2000 hundreds of farmers of the ethnic group of the Oromo near the capital Addis Ababa have lost their land without adequate compensation for the plantations (Afro Gadaa 2010). The tiny money will be enough only to survive months, then the tragedy of family crisis starts to prevail in their life. Children have to go on street and support.

According to Fliess *et al.*, (2007), as reported in recent years, the global flower industry has received some negative publicity because labor unions, environmental activists and other NGOs have raised a number of issues linked to conditions of production on developing country flower farms. Inappropriate choice of cultivation methods and a wide range of use of chemicals and fertilizers realized for damage large areas of land and water (Fliess *et al.*, 2007). Long working hours and hazardous conditions are also common. These social and environmental conditions started to be realized in the late 1980s by many northern country consumers and caused the introduction of international social and environmental standards for the industry (Frank & Cruz, 2001 p.72). Nowadays there are a lot of international, regional and local social and environmental standards to solve or minimize the risks of the industry.

2.6.2 Social and Environmental Standards of Floriculture Sectors

International social and environmental standards for floriculture industries first introduced because of awful working condition in many flower farms around the world. In addition to this awful working condition many Northern countries consumers started to realizes the negative environmental impacts of cut flowers through the promotion of different social and environmental concerned peoples and organization. Among the social and environmental organizations Flower Campaign was the most known and oldest organization which established in the year 1990 in Switzerland and Germany. The organizers of the Campaign were Bread for the World, the International Human Rights Organization FIAN, and the children rights organization terre des homes (Frank & Cruz, 2001).

The Flower Campaign starting point was Colombia, biggest producer from developing nations and where many complaints about human right violations, health effects, etc. were lounged. The Campaign straggled first to reach working and living conditions of flower workers in Colombia and elsewhere through public action on the issues involved and maintain a continuous dialogue with flower producers, traders and representatives from governmental bodies, consumer association, development experts, horticultural specialists and European chemical companies. The aim of the Campaign was to bring these actors together their shared responsibilities for humane and ecologically sustainable production of cut- flowers (Frank & Cruz, 2001).

In 1993 “Colombian Clean Flower Declaration” proposed as a response to the Campaign to provide an independent monitoring of the legal national prescriptions. And in 1995 the Flower Campaign proposed a “Quality Seal for Cut Flowers” including ecological, social and labor aspects and independent mechanisms of control of the farms. But the dispersion of the cut- flower trade into more than 15,000 small outlets in Germany made a seal difficult to control. Therefore, in August 1998, the Flower Campaign proposed jointly with other organizations the international code of conduct (ICC) for cut-flower production. The ICC is based on the universal Human rights, the ILO conventions and basic environmental standards (Frank & Cruz, 2001).

Contents of International Code of Conduct (ICC) includes: Freedom of association and collective bargaining, Equality of treatment, Living Wages, Working Hours, Health and Safety, Pesticides and chemicals, Security of employment, Protection of the environment, Child labor, Forced labor (IFC,2004).

There are also a lot of codes of practices that have been prepared by different bodies to reply the critics came from consumers and buyer of cut- flowers about bad working condition and unsafe environmental management. According to Frank & Cruz (2001) the majority of the codes have been used by

multinational corporations and employers' associations to counter public criticism or to preempt such criticisms. Most of these codes are very weak. ILO analyzed 251 codes in 1998, and only 15% included freedom of association and collective bargaining as criteria. Codes from employer side usually give more importance to environmental than to social standards. Independent monitoring or participation of workers, unions and NGOs hardly exists in company codes. The ICFTU presented a model code with the ILO core conventions and proposals for mechanism of independent monitoring. There are also some codes where unions and / or NGOs made agreements with a company or a sector.

FLP, MPS, Euro GAP, are among the most known codes of practices which drafted by traders and / or employers. They have their own quality and shortcomings with respect to the expected safe environmental and social situations.

According to Getu (2009 p. 259) Ethiopian Horticulture Producers and Exporters Association (EHPEA) developed its own Code of Practice in 2007 with the aim of providing "…a mechanism that enables the Ethiopian floriculture sector to achieve the highest performance standards by continuous improvement and sustainable development thereby improving the competitive position in the market." In the process of developing the Code, review of Ethiopian laws, the concerns and labels of the international market, stakeholders' concern and the interests of farmers have been taken into account.

Getu (2009) stated that the Code sets the minimum requirements a flower farm has to fulfill to get the certification for the Bronze Level, which is compulsory for all EHPEA members. A flower farm will receive EHPEA Code Accreditation after its compliance is proved through independent verification from an internationally accredited verification body selected by tender.

Compliance at Bronze level, among other things, ensures that the farm does or refrains from the following:

a) Measure, document and evaluate every month its performance on water consumption, pesticide use, fertilizer use, waste management and energy consumption;

b) Assess the risk related to the environment and occupational health and safety and put in place suitable mitigating actions in accordance with the Environmental Impact Assessment procedures;

c) Not to purchase, store or use banned and un-registered (excluding temporary permission to use products) pesticide products as per WHO list of internationally banned pesticide products;

d) Implement safe pesticide use and storage;

e) Ensure that personnel related to pest control activities are trained (ibid., p. 260).

2.6.3 Economical factors related to flower farm industry

2.6.3.1 Flower trade and economic development

Globalization brought an intense integration of the global economic systems. Accordingly developing countries have undergone economic restructuring in an effort to maximize opportunities from globalized trade. They embarked upon a range of trade liberalization policies and fiscal disciplines so as to attract Foreign Direct Investment (FDI) (Davids & Driel, 2005, Wick, 2010). Along with this, international financial institutions (IFIs) advocated for diversification into labor intensive non-traditional export products as an alternative export promotion strategy in the face of declining revenue from traditional commodities (Taylor, 2010, Mano & Suzuki, 2011). Hence, trade liberalization encouraged developing countries to diversify into labor intensive high-value agricultural exports (HVAEs) such as horticulture and floriculture to achieve economic growth.

Relocation of cut flower industry from traditional hubs of production such as the Netherlands, Latin America and African countries is a typical example of the changing nature of global production systems under liberalized trade. Because of the perishable nature of flowers, major flower producers have historically been near the main consumers. In recent years 'production centers have moved to places with comparative advantages of trade, i.e. relative abundance of labor (Mano & Suzuki, 2011;Tanya & Olga, 2007). In this process the traditional producers have shifted from flower production to trading (ibid). This relocation of labor-intensive industries to developing countries with abundant unskilled and cheap labor, was largely motivated by neo-liberal trade thinking "the lowest cost to operate" in order to meet competitiveness in global market (Fuchs & Lederer, 2007;, Taylor, 2010).

In liberalized trade, low labor costs and deregulations in labor market were among important factors in the relocation of flower farms to developing countries (Dolan *et al*., 2003; Taylor, 2010). Accordingly, abundance of unskilled and cheap labor is among the production factors that attracted

global horticulture producers to African countries because operations such as planting, harvesting, grading, and packaging traditionally require hand labor, making labor

Inputs a significant component of production costs (Dolan *et al*., 2003; Mano & Suzuki,2011). In addition, labor market deregulation under Structural Adjustment Program (SAP) of

The World Bank and IMF lead to flexible labor laws in an effort to attract FDI (Dolan *et al*., 2003; Ute, 2013).

The international financial institutions claimed that labor deregulation and relaxation of labor laws would bring increased employment opportunities and eventually enable developing countries to benefit from trade (Ute, 2013, Tanya & Olga, 2007).

East African countries such as Kenya and Ethiopia are among the leading exporters of flower to EU countries which accounts for the largest share of global flower market (Rikken, 2010, Mano & Suzuki, 2011). For countries like Ethiopia relocation of flower industries have presented the opportunity to diversify the economy in to high value agricultural exports such as horticulture (Mano & Suzuki, 2011, Taylor, 2010).

The country has been successful in adopting diversification strategy and achieved spectacular production growth which enabled to achieve economic growth mainly increased foreign exchange earnings and employment opportunities (Gebreeyesus& Iizuka, 2010, Taylor, 2010).

As discussed earlier the major advantage of flower farming industries is to create employment opportunity and improve the economic condition of the country as well as the employee. Assessment of the country economic benefit is measured by foreign currency earning. However employee economic benefit can indicated by job satisfaction which has been defined in different ways, from the degree to which someone likes his/her job (Spector, 1997, p. 2), to the degree of fit between actual job rewards and workers expected job rewards (Andrew Clark, Oswald, & Warr, 1996), to job satisfaction as a positive (or negative) evaluative judgment one makes about one's job or job situation (Weiss, 2002, p. 6).

Implicit in all definitions is the importance of on the one hand affect, or feeling and on the other hand cognition, or thinking (Lan, Okechuku, Zhang, & Cao, 2013; Saari& Judge, 2004). Much research has attempted to understand the predictors of job satisfaction. Among the most widespread theories providing a basis to understand how job attributes relate to job satisfaction are Maslow's Hierarchy of Needs (1954) and Herzberg's Motivation-Hygiene theory (1959). Starting point of both theories is that job attitudes are the result from a correspondence between individual's needs and job

Characteristics. When an individual is satisfied with his/her job it is because the needs of this individual are met. Conversely, when these needs are unmet, an individual will be unsatisfied with his/her job.

Maslow (1954) identified five need levels in a hierarchical order: physiological needs, safety needs, social needs, ego needs and self-actualization needs. The first three needs are considered deficiency needs. When these basic needs are satisfied, Maslow (1954) argued that the latter two needs, or 'growth needs' would be pursued.

Herzberg, Mausner, and Snyderman (1959) distinguished two categories, extrinsic factors or so called 'hygiene's' and intrinsic factors or 'motivators. Extrinsic factors are related to the basic needs in Maslow's Hierarchy of Needs. They include aspects not directly associated with the job activity itself, but that are rather a by-product of the work. They occur as a consequence of job performance. Extrinsic rewards may include wage, job security, promotion possibilities, fringe benefits and alike. Intrinsic rewards on the other hand are related with the job activity itself.

They satisfy the workers immaterial needs by allowing for self-expression, giving the worker the feeling that they accomplish something worthwhile (Aletraris, 2010; Mulinge& Mueller, 1998).

They may include the ability to use own skills, to have variation on the job, to receive freedom or autonomy to perform tasks and to be able to learn new things. In relation to Maslow's Hierarchy of Needs, intrinsic rewards is linked with the higher order needs such as social, esteem and self-actualization. Herzberg et al. (1959) argued that extrinsic rewards were 'job dissatisfies', while intrinsic rewards were 'job satisfiers. Herzberg's motivation-hygiene theory is not without criticism (Foor& Cano, 2011), but it has remained popular among researchers because of its ease of interpretation and operability of underling factors explaining job satisfaction (Delobelle et al., 2011).

Although researchers advocate that job attributes are the best predictors of job satisfaction, a significant body of research posits that demographic factors are also good predictors of job satisfaction. The underlying assumption here is that the relative importance assigned to various types of rewards may differ at the individual level. Some may attach greater importance to the wage they receive, while others may be looking for a more challenging and meaningful job (Mottaz, 1985). These individual differences have led to the introduction of personal characteristics into studies on job satisfaction. Demographic factors include gender (Andrew Clark, 1997), age (Andrew Clark et al., 1996), educational level (Peiró, Agut, & Grau, 2010), work experience (Hunt & Saul, 1975) and rural-urban background (Schuler, 1973).

Evidence shows that gender and education matters seem to be strong enough to warrant further research in our context. The successful development of the Ethiopian cut flower industry's involvement in the global market also brings related concerns in relation to work conditions, such as questions of health and safety, as well as gender concerns. Studies have documented evidence of poor working conditions, forced overtime, minimum wages, and insecure employment. Besides these health and safety rules implementation problems, the absence of basic facilities, extensive discrimination in promotion, denial of worker's rights to organize in trade unions, and failure to properly implement health and safety rules are the main concerns that persist in the cut flower farms (Getu, 2009; Nigatu, 2010; Weldeghebrael, 2010).

2.6.3.2 Fiscal incentives for the Booming of the sector

Ethiopian Investment Commission -Investment policy of Ethiopia has undergone amendments and regulation to create conducive environment for both domestic and foreign investors to foster development. For instance, investment proclamation 280/2002 article 4 of the proclamation state that the objectives of investment policy of Ethiopia are designed to improve the living standard of peoples of Ethiopia through the realization of sustainable economic and social development. Thus, policies are aimed to maintaining health labor force for better work environment, promoting a sustainable development and thereby satisfying the demand of rural population on food products, developing exports of agricultural products and maximizing extraction of foreign currency (MoARD, 2010).

Ethiopian investment commission crated fiscal incentives to enabling private sector development including floriculture sector. The promotion scheme for export includes 100% exemption from duties on imports of capital goods and raw materials necessary for the production of export goods, exemption from export tax and tax on transfer of shares of assets, and tax holidays on profits for 5 years (Chala, 2010).

Similarly, government has also provided long-term credit on very generous terms through the Development Bank of Ethiopia. Investors can borrow up to 70% with no collateral requirement and low interest rates that do not vary much. Compared to other major horticultural producer and exporter countries in Africa, government support scheme in Ethiopia is clearly very favorable for the investors. For instance, the fixed interest rate (around 7.5%) is very low compared to many other African countries' interest rates that are generally around 15%. The real interest rate that Ethiopian exporters have been required to pay since 2005 is zero when calculated against the growing rate of inflation in Ethiopia. This translates into a pure resource transfer (subsidy) to exporters (Gebreeyesus and Iizuka, 20 1 0).

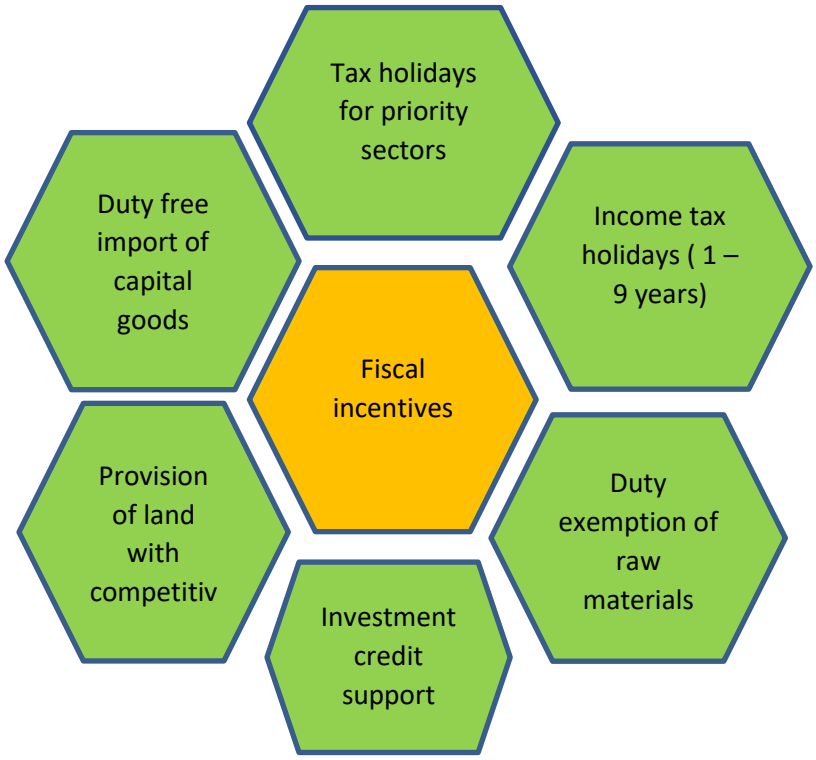

Figure 4.Fiscal incentives

Source: Ethiopian investment commission website (www.EIC.com)

2.7.1 Current Overview of horticulture sector in Ethiopia

According to the information got from EPHIA (https://ehpea.org/.The horticulture export sector is a young, and it has shown quite an exponential growth in the last ten years. Currently, there are 126 investments in Ethiopia in the export of flower, fruits, vegetables, and herbs. Farm ownership is made up of local investors (46), Direct Foreign Investors (76), joint venture partnership (3) and Development Bank of Ethiopia (1).

Currently the flower, fruit, vegetable, and herb farms occupy 10,897.21hectars of land. The horticulture sector employs 199,640 citizens and in 2017/18 fiscal year generated US$ 307.04 million. In hard currency generation, the horticulture sector has stood at the fourth largest in export earnings.

Favorable climate, availability of land and the incentive packages provided by the government have all contributed to the phenomenal and successful growth of the floriculture sector in the last 14 years. Ethiopia now has 72 active flower farms and is the second largest flower producer and exporter next to Kenya.

2.7.2 International standard regulation system

Private social standards are relatively new systems of regulation with main focus on labor and Environmental conditions that fall under the category of consumer labels as well as business to-Business standards (Riisgaard, 2009, Hale & Opondo, 2005). The standards are initiated and promoted by various groups that include buyers such as supermarkets, business associations, international NGOs, and trade unions (ibid). International certification and labeling initiatives emerged to meet consumer demands and consumers pay for what they consider morally acceptable. This mechanism is believed to potentially keep production and marketing standards in check as firms are sensitive to public and media attention (Fair Trade,2011, Rikken, 2010). Private social standards are alternative market solution based on consumer labeling that might facilitate a move towards ethical business practice and could potentially raise labor standards internationally (Rikken, 2010, Riisdgaard, 2009).

Fair trade is popular standard among consumers that requires companies to go beyond basic market expectation and channel a certain portion of their profits to corporate social responsibility projects at the production sites (Rikken, 2010, Fair Trade, 2011). Fair trade promotes acceptable labor standards and a fair share of business to farmers and workers. It has a strong focus on improving core labor rights such as decent wage, and freedom of association. It also focuses on other issues such as maternity leave and access to health care to workers and their families (Ibid). Fair trade set out internationally agreed standards and certifies flower farms on the basis specific criteria concerning the social and environmental conditions of production (Fair Trade, 2011). These standards focus on establishment of community premiums jointly managed by the workers and the management, prohibition of forced and child labor for those under 15, freedom of association, minimum wage standard, and health and safety measures in handling chemicals (Fair Trade, 2011, Hale & Opondo, 2005). Fair trade puts 12% premium on products to support community projects and workers cooperatives (ibid).

2.7.3 Social, economic and environmental standards in Floriculture

To recognize sustainable products there are standards, also in the floriculture. Those standards are also called process-standards. The process-standards are criteria for the way flowers and plants are produced. It is possible that those criteria influence the characteristics of end products. Product standards are specifications and criteria for the characteristics of products themselves (Riisgaard; 2009, Rikken; 2010).

According to Rikken (2010) standards are "a documented set of rules, requirements of agreements, which must be met in order to achieve something like access to particular markets, the ability to sell to certain buyers or qualification to use a particular label" (Rikken; 2010)

2.8 Structure of Literature review

The literature review section started with brief description of trends of global flower trade and its achievement to the world economy and followed by history of cut flower industry in Ethiopia had been interpreted .Then after conceptual frame work elaborated and model of sustainable development called Concentric circle model from Moore (2000) presented .Next to that triple bottom line and its relationship with CS and CSR briefly discussed .

Next to that current Overview of horticulture sector in Ethiopia were discussed and then indicators of Sustainable flower farm industry listed out and discussed under their category .

Theoretical framework for economic implication to understand how job attributes relate to job satisfaction is discussed based on Maslow's Hierarchy of Needs (1954) and Herzberg's Motivation-Hygiene theory (1959).Then the environmental and social factor of flower farm industry elaborated in detail.

The next section described International Environmental Regulations and market Standards which world flower farming company's governed. Then after self-regulatory systems of Ethiopia Horticulture Industry code of practice overviewed. Finally the study list out and describe the social and environmental Standards of Floriculture Sectors and the conceptual Framework of the Research illustrated.

2.9 Conceptual Framework of the Research

The study conceptual framework basically emerged from flower farm project actives. This activity's has three different components which are environmental impact, social impact and economic impact. Those impacts can be either positive or negative nonetheless it's decided by farms responsibility towards their activity. under the category of environmental aspect the farm activity require natural resources like land and water .however this resource utilization need to use in a sustainable manner .In addition to that the environmental impact of farms affected by excessive use of chemical and fertilizer usage for the pursuits of productivity improvement . solid and liquid waste disposal mechanism also another pulling factor of environmental impacts . on the subject line of economic impact of flower farm activity determined by economic advantage of employee which implicated by the wage they earn, the bonus availability and long term promotion possibility and or any other benefit the employee can get from the flower farm company . on the other way round the community can be affected by flower farm activity which implicated by the company corporate social responsibility measure .as a result the company either accepted by the

surrounding local community or not .The economic benefit either to the country or to the employee acquired from the floriculture industry become the cause of different social and environmental impacts .

Therefore depending on the strong dependency between the three component of the farm activity the result will be crating sustainable flower farming which can sustain country's economic advantage ,employee economic status progress ,social acceptability and responsibility and also environmentally acceptable way of action. Therefore, this conceptual framework serves as the building block upon of the study.

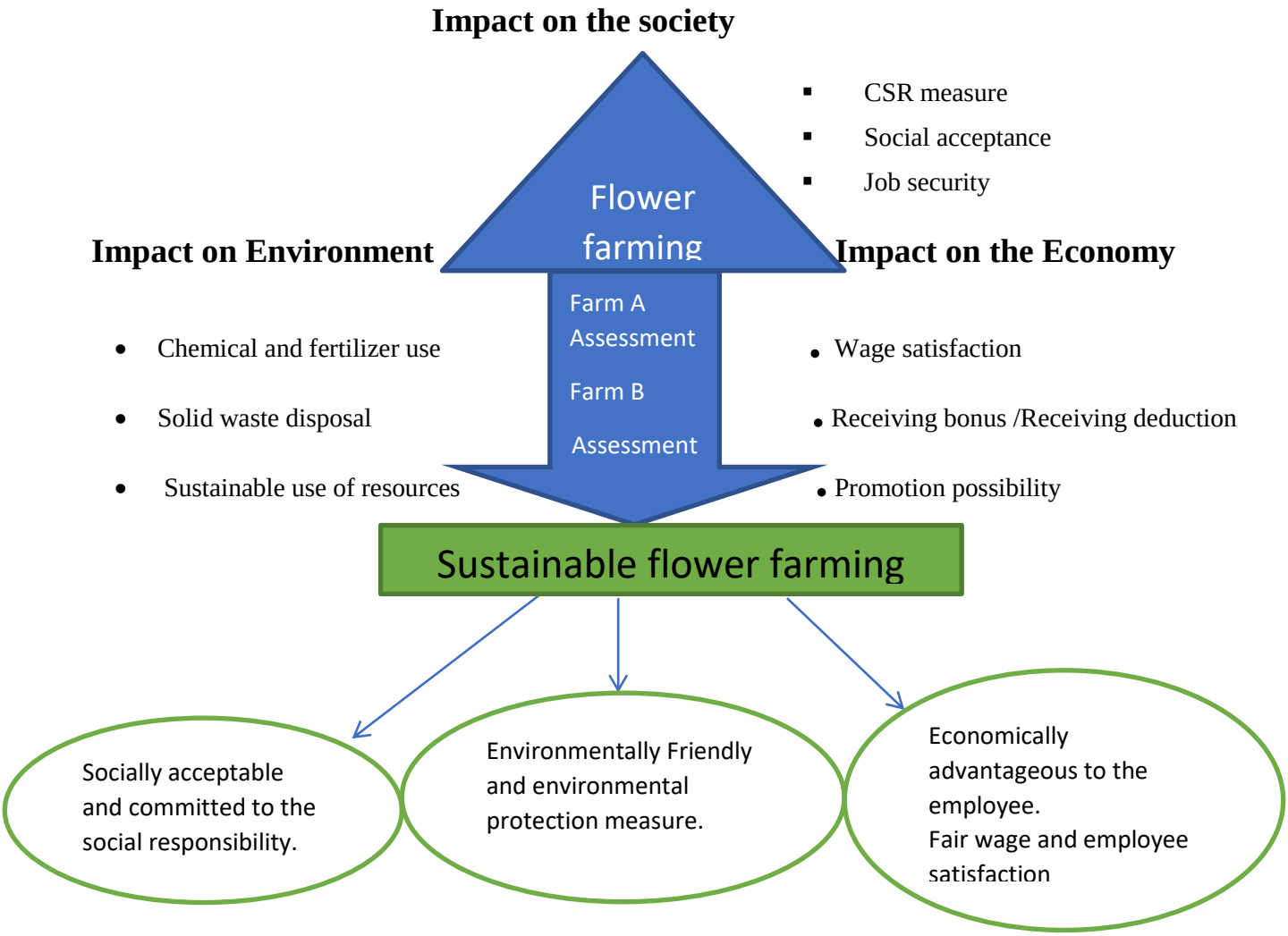

Figure 5: Conceptual framework of the study

Source: Own construction (2019)

CHAPTER THREE: RESEARCH METHODOLOGY

3.1.1 Study area description of Farm A

Flower farm A is well established flower farm industry located in Oromia regional state, Oromia special zone Finfine surrounding, Sendfa Bereh woreda Dire secoru Keble. Bereh is bordered on the south by the Akaki and Misrak Shewa Zone,on the southeast by the city of Addis Ababa ,on the west by Sululta ,on the north by Semen Shewa Zone,and on the east by Amahra region. The area has a latitude and longitude of 9º09'N39º02'E with elevation of 2514 meters above sea level.

The company was established by shared investors from Duch and England in 1995 and covered 20 hectares of land which was taken from twenty one local farmers by means of lease and the farmers getting land rent fee every five year. The project is located 40 km from capital city Addis Ababa and 2.7 km from the nearby town Sendafa in Bureak wereda Oromia regional state. The company engaged in producing summer flower called Hypericum coco which is produced by very few growers in Ethiopia.

The company designed in such a way that easy daily transportation of cold trucks with packed flower boxes from farm to Ethiopian airlines in order to export flowers to different part of the world. The company sells its product into international market mainly Netherlands, USA, Japan, China, Australia and Canada. The company export 100% of product to the world market and support Ethiopian economy by means of foreign currency earning.

Currently, the company creates employment opportunity for 300 permanent workers out of which 80% of them are females. These job opportunities have indirect positive impact to the community like emergent of pity trade in front of farm gate, women empowerment and so on.

3.1.2 Study area description of Farm B

Flower farm B is well established flower farm industry located in Oromia regional state, nearby Modjo town Lome woreda Koka kebele. The area has a latitude and longitude of 8º39'N39º05'E with elevation between 1788 and 1825 meters above sea level.

Flower farm B is also Duach owned flower company established 1941 and company has a proven track record worldwide as a breeder and as a supplier of starting material for professional growers.The company

located 40 Km from the capital Addis Ababa called Modjo ,Koka . Currently, the company creates employment opportunity for 400 permanent workers out of which 90% of them are females.

3.1.3 General description on company's current status

The EHPEA Code of Practice document is sets out a framework to monitor and measure sustainable practices on flower farms in Ethiopia and defines essential elements for the development of best-practices within the sector that will enable the sector to compete in the international market. This code consists of three levels (Gold, Silver and bronze) of excellence allowing Ethiopian flower and ornamental plant farms to be rewarded at each stage of their process towards developing more sustainable management practices within the chain. According to EHPEA Code of Practice for Sustainable Flower Production Version 4.0 Bronze Level is the minimum requirements expected in the leading markets for Ethiopian flowers and declared mandatory in 'Regulation for Code Compliance in the Floriculture Sector', Regulation No. 207/2011. The studied flowers farms farm A exist in gold level whereas farm B exist in silver level of compliance Interims of certification scheme the studied farm A get a certificate of code of practice Global GAP and MPS while farm B had code of practice and Rain Forest alliance.

3.2 Research Design

The study adopted a descriptive research design since the study intends to apply a mixed research design, which integrated both the quantitative and qualitative methods that describe the impacts of flower farming on the economy of employee, on the environment and social aspects of surrounding community .

Descriptive research portrays an accurate profile of persons, events, or situations (Robson, 2002). It allows one to collect qualitative data which can be analyzed quantitatively using descriptive and inferential statistics (Saunders *et al.*, 2007). According to Mugenda and Mugenda (2003) descriptive research is used to obtain information concerning the current status of the phenomena to describe what exists with respect to variables or conditions in a situation. The researcher considered this design appropriate since it facilitated gathering of reliable and accurate data that clearly described the impacts of flower farming on the aspects of sustainable development.

For this research, both primary and secondary data sources have been consulted. The primary data were collected through survey questionnaire.

In addition to that key informant interview, personal observation was undertaken .Thus the secondary data was collected from various previously studied researches ,booklets ,magazine and websites .

Whereas based on the expect data the research was able conduct by using mixed method quantitative and qualitative methods of data collection. To make the data collection and analysis of the result easier the researcher applied descriptive research design. In this descriptive research design the researcher first begins with a qualitative research by doing personal observation and site visit to the farm compound as well as overview of outside farm surrounding and explores the views of participants. The data are then analyzed, and the information used to build into a second, quantitative phase. The qualitative phase can be used to build an instrument that best fits the sample under study, to identify appropriate instruments to use in the follow-up quantitative phase, or to specify variables that need to go into a follow-up quantitative study.

For quantitative related data's employee survey had been conducted to acquire economic factor which expressed by the wage satisfaction, job security, and employment status of the workers, facilities and services before and after they hired in to the company.

Next to that key informant interview was undertaken and able to get essential data regarding to social implication that indicated advantage of the flower farm industry to the local community. This advantage of farm will be measured by farm practice to perform corporate social responsibility.

The data related to environmental implication was gathered by applying key informants' interviews who are elder people in the community and personal observations towards the farm and its surrounding.

Furthermore, for the detail of study design for each environmental, economic and social impact of flower farming company illustrated in the next section.

3.3 Study population and selection

The study population is the flower farm general workers and high level managers who works in selected two flower farms. each farm has three major departments beyond sub divisions. Which are production, crop protection and grading department.The respondent were selected as the study population because they are directly related to the company's production activity ,environmental issue concerned and also they are decision makers on the socio-economic responsibility of the company .

3.4 Data source and type

Two flower farms were surveyed in order to obtain economical implication, social responsibility and environmental friendliness related data from primary and secondary sources. The primary data of the study was collected from flower farm employee (who can read and write), high level managers and community elders by using survey questioners, Key informant interview and filed observation.

Whereas secondary data was collected through review of documents, books, journals, reports from workshops and different websites etc. was used to collect the intended information. Additionally, stakeholder's documentation like Ethiopian horticulture producers and exporters associations resource center were help to acquire the necessary information.

3.5 Sample size determination and sampling technique

In order to select target population (sample of workers') convenience sampling design was applied. A convenience sample is a type of non-probability sampling method where the sample is taken from a group of people easy to contact or to reach (Saunders & Lewis 2012).So that the researcher conveniently select two flower farms and working department with in the farm .Individual respondents selected from selected departments which are closed to the required information in order to fulfill the research objectives from the perspective of environment ,social and economic aspect. The overall sample size was determined by the following sample size determination formula;-

Sample Size Calculation

$$ss = \frac{Z^{2} * (p) * (1-P)}{C^{2}}$$

Where:

Z = Z value (1.645 for 90% confidence level)

p = percentage picking a choice, expressed as decimal

(.5 used for sample size needed)

c = confidence interval, expressed as decimal (0.1 = ±10)

$=(1.645)^{2} * (0.5) * (0.5)/(0.1)^{2}$

$=0.6765/0.01$

$=67.65$

Correction for Finite Population

$$\text{New SS} = \frac{ss}{1 + \frac{ss-1}{Pop}}$$

$$SS = \frac{67.65}{1 + \frac{67.65-1}{700}}$$

=61.76~62 appropriate sample size.

Where: pop = population=700

In order to calculate the sample size, I desired to use confidence level of 90% of confidence level, 10 % of margin of error by considering the total population is 700 employees in total from two flower farms.

3.6 Organization of Field work and Data Collection tools

Since large investment institutions like flower farms are very strict and secure system of management they do not have open access to undertake research by outsiders unless they got supportive letter from government policy making institutions or from horticulture association. This is mainly because of sector characteristics, their location and some other reason. However for this study, the researcher do not face any problem because of being staff of one of survey conducted company and had also strong connection with other one. So that data collection was undertaken just after permission were granted from the farm manger and production manager of company.

The Four enumerator was assist the researcher on data collection after getting explanation about the research objective and researcher undertake all the survey process. Qualitative data of the study was obtained from key informant Interview was conducted with six community elders (three from each farm) and a farm land owners who transfer their land to the farm owner in form of lease .From the six interviewee two of them was conducted by phone because of unexpected appointment cancelation by the interviewee .

A total of 45 respondents were selected .whereas 7 from crop protection department ,7 from grading and 28 sample respondents from production department .In order to obtain the required information structured and semi structured questionnaire were prepared in English language and then translated in to Amharic and Oromifa language. Since most of the flower farm located in Oromia regional state the employee are dominated by Oromo native speakers. Those questionnaires were prepared by mixing of close ended and open ended questions to elaborate various economic, social and environmental impact of farm to their employee.

3.7 Method of data analysis

The data collected by using the aforementioned method were edited, coded, and verified in preparation for further statistical analyses and analyzed through different qualitative and quantitative data analysis techniques which depending on the type of data collected. For instance, the economic related data obtained from survey was entered into computer for analysis using Statistical Packages for Social Science (SPSS) version 23 and (OPEN CODE) version 4.02 were used for personal observation and interviews .

Descriptive Statistics ;-A descriptive statistic is a summary statistic that quantitatively describes or summarizes features of a collection of information, while descriptive statistics in the mass noun sense is the process of using and analyzing those statistics (Mann, 1995).

Descriptive statistics provide simple summaries about the sample and about the observations that have been made. Such summaries may be either quantitative, i.e. summary statistics, or visual, i.e. simple-to-understand graphs. These summaries may either form the basis of the initial description of the data as part of a more extensive statistical analysis, or they may be sufficient in and of themselves for a particular investigation.

Means are used to measure central tendencies, while standard deviation, minimum and maximum value were used to measure variability; percentages are used to measure change and difference, and Likert scales are used to describe the sum of responses.

All statistical analysis in this thesis are conducted using the data management software package SPSS 23 (SPSS, 23).

CHAPTER FOUR: RESULT AND DISCUSSION

4.1 Background on economic implications of flower farms to the employee.

This data collected from an economical aspect of flower farm industry mainly from general employee who are working in different departments, including production, grading and crop protection departments. The data employed for the analysis of this study was collected from 62 sample employees from the two flower farms. Among the total respondent 45 sample employee were used to answer the economical implication related survey .Whereas the remain17 are used for the social and environmental related survey.

4.1.1 Demographic characteristics of sample employee

Age

It is evident that age is one of the demographic variables that have been considered in the research works. As shown in Table 1, the average age of the sampled employees stands at 28.61 years with the standard deviation of 7.44 years. This implies that most of the flower farming employees is in the working age groups (16-64 years) (CSA, 2013). Thus, being in the work age groups make them to be more active and productive in their works. This result is in agreement with minimum age standard declared by ILO (1019).

Since the inception of the ILO in 1919, the minimum working age was defined as 14 years (ILO, 1973). However, child labor is a widespread phenomenon in many developing countries. The ILO estimates 117 million children between the ages of 5 and 14 are engaged in child labor worldwide (Diallo *et al.,* 2010).

On the other hand according to Ethiopian Private Organization Employees' Pension Proclamation number 17.1 the retirement age of an employee of a private organization shall be 60 years based on the date of birth registered when he or she was employed for the first time. Therefore, none of the surveyed farm was not pass the maximum age of retirement.

The result is also backed by the qualitative information extracted from one of the key informants (Production Manager) who vividly noted his views as "*most employees are young and active, which has a positive correlation with our company productivity.*"

However, according to the researcher observation during field work visit there is dissimilarity in the age group of flower farm workers. Which means there are young and dynamic youth employee together with old persons are included. This is mainly because while the company hire workers there was not requested any evidence to define age except asking their age .This would led to give wrong figure due to fear of losing job because of being either under or above age margin.

Table3: Demographic characteristics of sample employee

Variable	Mean	Std. Deviation	Minimum	Maximum
Age	28.61	7.437	20	58
Marital status	Single	Married	Divorced	
% of workers	61.3	32.2	6.5	

Source Own survey (2019)

Marital status

As explained above flower farming industry need young and active human power. In order to fulfill this requirement marital status of the employee is also one of the direct factor affect the efficiency of the workers' activity. The survey results for this research reveal that single marital status respondent are commonly found in the studied farm in which make up of 61.3 percent. However married household heads make up 32.3 percent and divorced one are 6.5 percent of the investigated farm workers. This implies that flower farm employees are dominantly covered by single or unmarried individuals. Research on marital status explained that insight has found that women are perceived to be less suitable for employment after marriage, whereas men are perceived as more suitable for employment after marriage (Renwick & Tosi, 1978; Hammer, 1993; Jordan, College, Zitek, 2012;). Furthermore, following marriage, the performance of female employees is expected to decline, but not for men (Jordan *et al.,* 2012).

Family Size

Household is a group of persons who make common provision of food, shelter and other essentials for living. Based on this family size of a household determined by the number of individual who live together.

Employee who have large number of family member either their own family or their first family means father, mother ,grandmother and sister ,brothers can be affected their work efficiency and indirectly affect their satisfaction on job .In the surveyed flower farm 36.8 percent of employee respondent explained that they have family members of 1 up to 3 person while 42.1 percent encountered family who live together is between 4 and 6 .However the minimum percentage of 21.1 but the maximum family size of nine and more than were identified. This implies that in the studied flower farm the employee has large family size and this can be an indicator of their living condition.

According to United Nations Database on Household Size and Composition 2017. World Average household size across the globe ranges from 2 to 9 persons per household . Small average household sizes, of fewer than three persons per household, were found in most countries of Europe and Northern America. Whereas Large average household sizes, of greater than five persons per household, were observed across much of Africa and the Middle East. The largest household sizes were found in Senegal and Oman, averaging 9.0 and 8.0 persons, respectively.

Some studies had been developed on family size related implications. Becker (1991) as expatiated inwww.hhs.gov (2005) shows that family size is an important determinant of whether a family or individual is in poverty because the official poverty measure incorporates family size. Familysize depends on: family income cost of children, wages, government transfers, and Preferences.

Table 4. Family size of individual employee percentage

Family size of the HH	**Percentage**
1 up to 3	36.8
4 up to 6	42.1
7 and more than	21.1
Total	**100**

Source Own Survey (2019)

Household Head

The percentage of respondent who are head of the households make up 69.6 percent of the samples. The stimulating point concerning to the marital status of flower farm employee majority of them are single but

they are head of house hold which are back bone of their family's economy . The number of household members in percentage under 5 are 57.8 while the employee who had members more than 5 are 42.1 percent.

The result showed that from the total of 45 respondents 35 of them are female respondent in the given sample while 20 was male, which indicates that majority of flower farm employee are women's which is 77.8 present of female and 22.2 percent are male . So that flower farm industry is pre dominant sector by creating job opportunity for rural women which had great role for the enhancement of rural women economy .

Table 5 Respondent gender profile vs responsibility in the family (n=45)

Variable	Gender	Valid percentage
Female	35	77.8
Male	10	22.2
House Hold Head		69.6
Not House Hold Head		30.4
Total	45	100 %

Source: Own survey (2019)

Educational background

Educational background is less relevance to become employee of flower farm industry specifically for general or production related labor intensive working activities. As the survey result showed that 35 present of respondent literate only primary education .However 58 present completed secondary education and only 7 percent had a first degree.

Table 6: Distribution of workers by literacy status (n=45)

	Mean	Std. Deviation	Minimum	Maximum
Level of Education	9.23	2.844	2	Degree

Source: Own Survey (2019)

Gender and Education Level

From the bellow graph one can understand that education level classified as primary, secondary and first degree level .This level of education varies in gender . In this regard women's are score a greater value than men. This also implies that most flower farm workers are able to join secondary education. However they fails to join higher education institution. During key informant interview one respondent express his

felling as "*I completed grade 10 and score a good grade for the entrance of preparatory school, however my family did not have enough cash to send me nearby town so that I prefer to work on this flower farm as a flower packer.*"

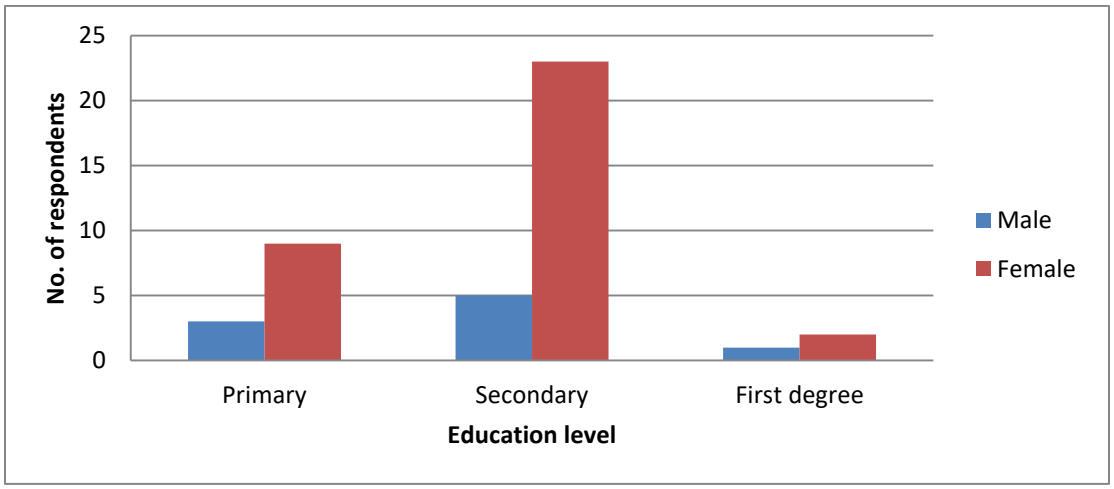

Figure 1: Gender in terms of their education level

Working department overview of respondent

Due to characteristics of flower farming activity the company categorized employee in to several departments. From those department the survey conducted from production department took 69.8 percent, packing house 2.3 , grading 11.6, field 4.7 ,crop protection 4.7 and scouter 7 percent. The main thing in department section the employee reported that 75.6 of sample respondent did not choice their working department rather the company assigned. Whereas 97.7 percent of flower farm workers are permanent employee and only 2.3 percent are seasonal workers.

Table 7: Overview of respondents from two flower farms

	Department	**No. Male**	**No. Female**	**Total**	**Percentage**
Working	Grading		5	5	11.6
	Pack house	1		1	2.3
	Field	1	1	2	4.7
	Production	4	27	31	69.8
	Crop protection	2		2	4.7
	Scouter	2	2	4	7.0
TOTAL		**10**	**35**	45	100

Source: Own survey (2019)

4.1.2 Working Condition

Work Experience: Mostly long working experience in a given company crate a good relationship between employee and employer this is mainly because both party build trust on each other . Employees who have been with the company for many years have considerable knowledge of the company's culture and its products and services. They have experienced many changes within the workplace, and consequently understand what works and what doesn't. In performing their job duties day after day, they develop a strong knowledge base, which results in higher productivity.

Following Enhancement of working experience employee expect either increment in salary and or promotion in position. In this study flower farm employee have an average experience of 5.8 while there is a huge gap between the maximum experience recorded 15 years and 1 years of minimum working experience in the company's. This can be an indicator of flower company's has positively impacted employment opportunity in Ethiopia and once employee join flower farming company they able to be stable for long time. The industry has created roughly 70,000 new jobs, making a large contribution to the improvement of livelihoods, food security, and reductions in poverty (Tamrat, 2011). The floriculture sector has created many skilled and unskilled jobs at the local level, reaching roughly 50 to 70 jobs per hectare (; Tamrat, 2011; Glenn, 2012).

This result also showed that flower farming company crate job opportunity to the rural citizens who may not access to job beyond house hold based small scale agriculture and pity trade. During farm observation researcher able to examine that there are also workers who do not able to read and write even use finger print for signing their payroll.

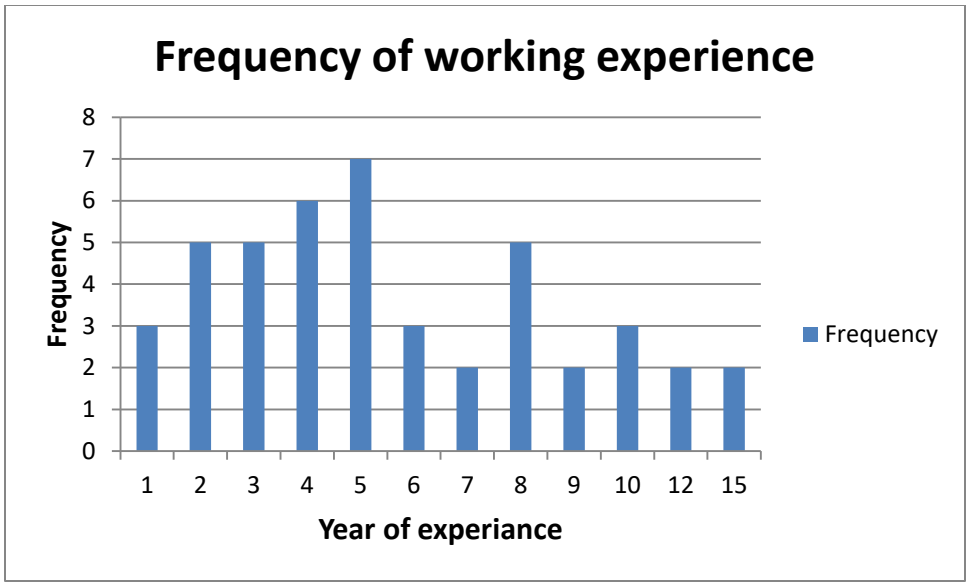

Figure 2: Frequency of working experience

Work experience and salary increment:-According to survey of perception on their work experience for increment of salary 70 percent of employee believed that their experience matter for their salary increment and 30 percent complained staying long year in the company did not make a change from the newly hired employee .

Working Hour: Working hour of the employee can be classified as in daily, weekly or monthly base and it is decided by the agreement between the employer and the employee . In the studied flower farm employee reported that they are working six days per week and maximum of nine hour per day. This means that employees are working 1 hour of over time with in a day.

According to the Universal Declaration of Human Rights "everyone has the right to rest and leisure, including reasonable limitation of working hours and periodic holidays with pay". In Colombia the labor law stipulates that a full-time working week comprises 48 hours of work. Employees and workers are permitted to work a maximum of 12 extra hours, which must be paid. This means that workers are allowed to work a maximum of 9.6 hours per day under normal circumstances, and in case of overtime, a maximum of 12 hours per day.

In Ethiopian context labor law declared that, a worker should work daily for 8 hours and 48 hours weekly. From the researcher Observation in one of the study conducted flower farm employees were go home after half day of work .In this case one of the farm supervisor explain the issue like "*The farm manager*

decide to prepare task system by giving daily task quota to each group of workers and if they finished their assigned daily task they can go home immediately and this task system motivate the employee to run away from farm compound and undertake off farm activity. He added this is good for the mutual benefit of the company and the employee as well."

Table 8: Overview of employee work experience, working hour and monthly salary

Variable	**Mean**	**Std. Deviation**	**Minimum**	**Maximum**
Work Experience	5.8	3.539	1	15
Working Hour /day	7.8	1.355	2	9
Monthly salary	2864.09	1450.328	1196	6500

Source: Own Survey (2019)

Monthly Salary

In the surveyed flower farms employee salary range from minimum1,196 to maximum of 6500 ETB. which means 46 birr per day up to 250 ETB. However the average monthly wage of an employee is 2,864.09 ETB. According to the research is carried out by Utrecht University's International Development Studies group; IDS is the leading partner of LANDac (LANDac/F&BKP) on Wage Indicator Foundation the Statutory minimum wage per month for Ethiopia is (€17.89-270.67) in which one Euro is approximately equivalent with Ethiopian 33.03 birr so that the minimum maximum ratio of statutory rate is (590.90 – 8,940.23) ETB **.**This implies that flower farm workers had make monthly wage of above the statutory minimum wage per month but bellow the Living wage of individual per month.

Table .9 Living wage and statutory minimum wage

	Kenya	Tanzania	Uganda	Ethiopia
Direct employment crated	5,164	1580	6281	4500
Permanent temporary ratio	82:18	_	93:7	99:1
Percentage of female labor	64%	60%	68%	79%
Average monthly wage	€119.73	€46.63	€38.42	€38.93
Living wage of individual per month (min-max)	€132.44-€190.92	€102.76-€181.68	Not available	€143.30-€163.80

Statutory minimum wage per month (min-max)	€46.76-€212.59	€16.00-€160.00	€1.45	€17.89-270.67

Source: LANDac/F&BKP Country reports 2016; Wage Indicator Foundation 2015

Wage standard and Employee perception

Private company and governmental institution has their own wage standard. Based on that employee satisfaction level is varies from individual to individual towards the salary they earn.

Presently, there is no consistent minimum wage mechanism in Ethiopia, however some public sector institutions and enterprises have set their own minimum wages. Further, the ILO "Minimum Wage Fixing Convention, has not as yet been ratified by Ethiopia.

The field result of this study showed that 64.1 percent of flower farm workers believe that their economic condition is improved since they start work in this company .However 35.9 of the sampled employee mentioned their economic condition is worsened after joining this company . A person working in one of the flower farm company explain his felling by saying, "*I had work for the last three years in this company but my living condition become worsen year to year .Previously I was participated in different off farm activity like daily work with construction company and grass cutting and sale .However I have work full day in this company and get not enough money to cover my life expense.''* Even if majority of flower farm employee perceives that their economic condition is improved but some of them specially men's perceive their economy is worsened .this is mainly because men's has more opportunity to undertake several tasks in the community than women's. based on existing international standards and the diversity of practice, the ILO minimum wage policy guide the condition in such a way of fair pay is promoted. However this standard based on national preference and company circumstance.

According to Article 1 of ILO Minimum Wage Fixing Convention, 1970 (No. 131)

1. Each Member of the International Labor Organization which ratifies this Convention undertakes to establish a system of minimum wages which covers all groups of wage earners whose terms of employment are such that coverage would be appropriate.

2. The competent authority in each country shall, in agreement or after full consultation with the representative organizations of employers and workers concerned, where such exist, determine the groups of wage earners to be covered.

Monthly salary and expenditure

Table 10: Monthly salary and expenditure

Monthly salary spend on	Selected count (%)	Unselected count (%)	**Person Chi^2(1) ,p value**
Food	95.1	4.9	21.354 Pr=0.673
House rent	80.5	19.5	21.028 Pr=0.691
child school	92.7	7.3	17.315 Pr=0.870
Saving	46.3	53.7	29.484 Pr=0.244
other cost	68.3	31.7	28.065 Pr=0.305

Source: Own Survey (2019)

As seen on the above table the flower farm employee spend their monthly salary on food which makes up 95.1% . The difference between those who select food as an expenditure with who do not select are statistically non-significant (X^2=21,354 Pr=0.673) . As seen on the above table the flower farm employee spend their monthly salary on house rent which makes up 80.5% . The difference between those who select house rent as an expenditure with who do not select are statistically non-significant (X^2=21,028 Pr=0.691) .From the above table 92.7% of respondent spend their salary on child school. The difference between those who select child school fee as an expenditure with who do not select are statistically non-significant (X^2=17,315 Pr=0.870) . As seen on the above table the flower farm employee set some of their monthly salary on saving which makes up 46.3% . The difference between those who deposit for saving from their salary with who do not save are statistically non-significant (X^2=29,484 Pr=0.244). As seen on the above table the flower farm employee spend their monthly salary on different costs which makes up 68.3% . The difference between those who select other cost as an expenditure with who do not select are statistically non-significant (X^2=28,065 Pr=0.305)

Over time work and payment

Its known that big investment company's like flower farming activity characterized by labor extensive. During high production season company's use two option to fulfill the customer order and sale of their product to the world market. Either they hire seasonal employee or force the existed worker to work extra hour than 8 hour per day which is declared by Ethiopian labor low .In studied farm 72.25 percent of employee works an overtime work nonetheless 12 percent of them believe that they did not paid for it.

Even though the majority of respondents or 86 percent believed that they are paid for overtime work almost half of them did not know how over time work is calculated.

According to the Universal Declaration of Human Rights "everyone has the right to rest and leisure, including reasonable limitation of working hours and periodic holidays with pay". Flower farm employees specially general workers are not willing to do overtime work since the payment is calculated based on the salary they earn, it's not satisfactory if it compare from their burden .On the other hand, over time work favor for highly paid supervisor and managers. The other reason why employee dislike overtime work is most of the time farms located at far from the residence area and the workers travel long distance every day. So that working of extra hour become one of the causes of employee strike.

4.1.3 Different benefit to the employee beyond salary

Table 11. Additional benefit of farm to the employee

Different benefit	Response per %		
	YES	NO	Pearson $Chi^2(1)$, p- value
Productivity bonus	82.9	17.1	1.732 Pr=0.188
Transport service	72.5	27.5	5.124 Pr=0.024
Health service	89.7	10.3	0.314 Pr=0.575
Sick leave acceptable	94.7	5.3	0.005 Pr=0.946
Sick leave related punishment	94.7	5.3	1.145 Pr= 0.285
Annual leave per year	100	0	13.325 Pr=0.149
Maternity leave per year	100	0	0.377 Pr= 0.539
Food service	73.7	26.3	4.862 Pr=0.027
Promotion possibility	30.7	69.3	1.974 Pr=0.160
Other benefits	67.6	32.4	0.160 Pr=0.689

Source : Own Survey (2019)

On the above table the flower farm employee get productivity bonus which makes up 82.9% .The difference between those who get productivity bonus and those who do not get are statistically non-significant (X^2=1,732 Pr=0.188). On the above table the flower farm employee get transport service which makes up 72.5% .The difference between those who get transport service and those who do

not get are statistically significant (X^2=5,124 Pr=0.024). On the above table sick leave of outside clinic is acceptable by 94.7%.The difference between for those whose sick leave is acceptable and those who do not acceptable are statistically non-significant (X2=0,005 Pr=0.946).

Productivity bonus to the employee

In both studied flower farm the employee got either monthly or holiday based bonus. Farm A give a bonus of full salary for three of Ethiopian holiday within a year and the other one give 10 percent of monthly salary for each employee every month. The company uses this offer to motivate hard workers and or also use as a punishment to the workers who show miss behave and weak performance. The screenings of those who entitled or not entitled to the bonus payment were made by the supervisors. However from the survey result 62.9 of respondent did not believe there are fair motivation or punishment activates are undertaken.Whereas5.7 percent of respondent did not have any idea or comment on this matter.

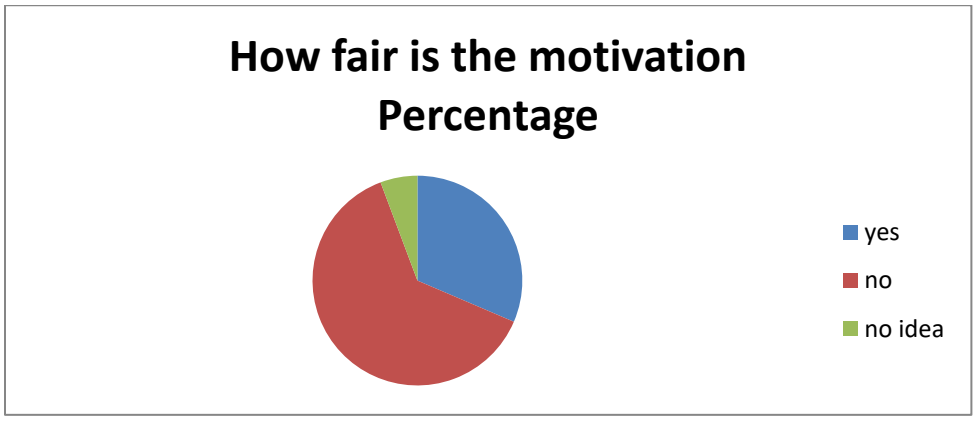

Figure 2: Employee perception on motivational bonus

Source: Own Survey (2019)

Transport service : Mostly flower farm located in areas has less population density this is mainly because the sector need very big hectare of land to production. Consequently the farm workers forced to walk minimum of half an hour and maximum of 2 hour per day. In the studied farm the first company arrange transport for all of his workers but the second one provide only for supervisor and managers.

Health service: According to researcher observation on the farm compound small health center instituted in both company's compound .However the survey data indicated that workers complain the poor standard of clinic and they use only for first aid during emergency period .

In addition to this 97 percent of employee explained that they are getting health service from the nearby government health station and the company accept sick leave written by the physician .

However the company controls systematically sick leave and absenteeism by linking the annual or monthly bonus they earn depend on their working days. Regarding to this 97 percent of employee assured that their benefit or bonus is bounded by their working days and it's become decline in any case of sick leave or absenteeism except annual leave .

Annual Leave : The number of paid day off given by the company through out of the year is depends on the working experience of the employee in that company . Regarding to that matter result showed that they have an average of 19 day annual leave whereas minimum of 14 and maximum of 25 days of paid leave is recorded .

Maternity Leave -As stated in the revised labor law, every pregnant woman is entitled to four months of paid maternity leave. However this now implemented for civil servants only but not for private sector employee. According to surveyed group one of the farm already implement four month of maternity for all workers. whereas the other farm still give three month since the labor low declared for civil servants only .The Labor Law, Section Six, Article 88, entitles every woman one month of pre-birth and two months of post birth leave. FDRE. (2004) Labor Proclamation No. 377/2003. Addis Ababa, Ethiopia.

Food Service : In the studied farm company arrange lunch service to the employee whereas the second farm only give breakfast (bread and Tea) .However in the studied group 73.7 percent perceives that they are getting enough food service and the remains 26.3 percent are not feeling good with the food service they are getting from the company .

Promotion possibility :Among studied population the 31 percent of employee had got a chance of promotion in this company and they also expect further improvement in their position as well as life standard . However, 69 percent did not get any promotion and they did not also expect anything and they are about living day to day life.

Monitoring and Evaluation to the Social System : In order to declare that one company is socially responsible it should be on the line of periodic monitoring of the company relationship with the local community. In the studied farm the company prepare meeting with community elders and land owners to discuss about their mutual benefit and the existed gap among themselves. This is also very relevant for the sustainability of the farm business and also to the local community benefit.

4.2 Social implications of flower farms.

4.2.1 Effects of flower farm activity in the environment

The respondents were asked to indicate the extent they concur with the statements below using a Likert scale of 1-5, with 5 being 'strongly agree', 4 being 'agree', 3 being 'neither agree nor disagree', 2 being 'disagree' and 1 being 'strongly disagree', on effects related to flower farming environmental effects in to the selected two flower farms.

Table 12: Effects of flower farm activity in to the environment

Effects under consideration	5	4	3	2	1	Mean
The company uses inorganic chemicals and fertilizers	76.9	7.7	15.4			4.62
Chemicals and fertilizers imported or locally purchased are approved by the authority	76.9	15.4	7.7			4.69
Experts and professionals are in place to use those chemicals and fertilizers	69.2	23.1	7.7			4.62
The quality or standard and quantity regulation of chemicals are examine before application or usage	15.4	30.8	15,4			4.38
Adequate mechanism for the disposal of empty container is experienced	76.9	23.1				4.77
Regular soil and irrigation water test is done	30.8	15.4	15.4			3.92
Well contracted Drainage system is established.	46.2	38.5	7.7	7.7		4.23
The solid waste disposal mechanism is practiced	23.1	15.4	30.8	30.8		3.31
Recycling of used product	46.2	38.5	7.7	7.7		4.23
Efficient use of resources like water, land	30	60	10			4.20
Existence and applicability of EMP	100					
Follow up and Implementation of EMP	30	60	10			4.2
EIA document in place before the project implementation	60	20	20			4.4

Most of export based business oriented flower farm use inorganic chemical and fertilizer in order to increase the production capacity of their farm or to prevent the plant from different plant disease. The result of the survey also figure out that 76.9% of flower farm employee as well as average of respondent 4.62 and experts strongly agreed that their farm use inorganic chemical fertilizers.

76.9 of farm supervisor and managers strongly agreed that chemicals and fertilizers imported or locally purchased are approved by the authority. The average answer of the respondent (4.69) also strongly agreed on the imported chemical had an approval by minister of agriculture and for fertilizers from

standard conformity agency. In order to protect the natural resources like soil, water and also other untargeted body strong control on the import may not be sufficient rather there should be assigned experts and professionals are in place to use those chemicals and fertilizers .

In regarding to this, 69.2% of respondents strongly agreed that their company hire professionals on the chemical application and pest control unit . In which those professionals intended to decide on quality or standard and quantity regulation of chemicals are examine before application or usage. However 69.2% of respondent strongly agreed on the company hire professional on chemical and fertilizer usage only 15.4% of them strongly agreed on the decision making of those professional on the quality and quantity of chemical and fertilizers intended to use . With respect to that the average of 4.38 respondents agreed on the professional decision.

After using of each package or container of chemicals there should situate carefully instead of simple disposal of empty container together with other leftover. In this regard 76.9% of respondents strongly agreed that they placed the empty chemical containers in proper place and use appropriate disposal mechanism. Even if the chemical and fertilizers usage managed properly there should also be regular soil and irrigation water test. In the study conducted flower farm 30.8% of respondents strongly agreed that there are regular irrigation and potable water test and also soil test is more common .

A drainage system is an arrangement to move liquids away from where they are not required for disposal in appropriate locations. Since the flower farms produce liquid wastes there is high probability to runoff the toxic elements and goes to the water body or on the surrounding community farm lands .In order to protect the environment as well as the community from negative impact of hazardous chemical and fertilizers farms construct drainage system. In this matter 46.2 % of respondents strongly agreed that there are well constructed drainage system and the average result 4.23 also suggest their agreement .

In addition to liquid wastes generated by flower farms activity solid wastes like leftover of cartons, sleeves ,rubber bands etc also should be considered. This solid wastes also adverse impact on the environment if it’s not managed properly. However in the studied farms the equal figure (30.8%) of experts neither agreed nor disagreed to the concept and also disagree with the management of solid wastes in their farm is noticed. The average result also showed that 3.31 which is under the neutral or neither agreed nor disagreed scale of perception. 46.2% of the farm expert perceived that their farm recycle used product in order to protect the environment from adverse impact.

Since the natural resources are characterized by their irreversibility its highly recommended to use efficiently. The survey result also indicate that the farm mangers and employee agreed the concept by 60%. The average result also agreed (4.2) on the efficient use of resources is practiced in their farm .The farm commitment towards environmental protection concern can be identified by the availability, follow up and implementation of environmental management plan and environmental impact assessment. In the studied farm respondents fully strongly agreed (100%) on the existence of EMP however only 30% of them strongly agreed its implementation and follow up.

In the study conducted flower farm there was no EIA document before the project implementation. However, currently both farms have the EIA document on their hand. This is because during the time of project implementation there was no strong controlling mechanism.

4.2.2 Method of floral waste disposal

Flower farms are well known by generating different wastes which are harmful to the environment .Those wastes are mainly classified in to two ,solid and liquid wastes .Among the solids rejected flower stems and leafs which are not fulfill the export quality standard are the very common one .Most of the time flower farms did not dispose less quality stems instead they sold it to the local market .However in the studied flower farm 83.3% of the respondent mentioned that they decompose the rejected stem. This means that the rejected floral wastes are collect together and grind in to small size by using shredder machine. After completing grinding process they make a pile by planet pieces and put for several days then it became debris which can serve as the natural fertilizer. Even though using floral wastes as a natural fertilizer had a good practice for the environment protection as well as cost minimization, during filed observation the researcher can observe that there were excessive piles that would be create untargeted damage in the environment like pungent odor.

4.2.3 Foliar Fertilizer application

Foliar fertilizer application is a technique of feeding plants by applying liquid fertilizer directly to their leaves which is more efficient and effective than root feeding. The respondent in this case agronomic expert and professionals were asked to indicate whether their farm using foliar fertilizer or not. Then the finding of the research are presented in the bellow figure,

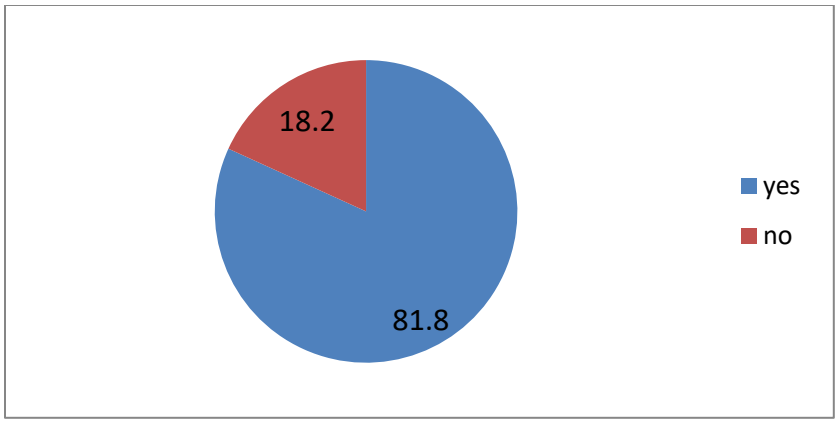

Figure 3.. Foliar Fertilizer use at farm

4.2.4. Time of pesticide application

According to survey result in the studied farms spraying of pesticide and chemicals are undertaken during nigh time in which no workers are available unless the sprayer .

4.2.5 Expired chemical and Fertilizer treatment

Business oriented flower farming company used inorganic chemical and fertilizer for the purpose of either treatment or prevention of various plant diseases. These chemicals are imported from different countries and need a strong control of the supply chain to regulate the required amount of chemical and fertilizer and require to manage the expired properly.

The survey result of this study indicated that only 20 % of professionals respond that the expired chemicals are disposed by authorized person internally while 50% of them mentioned that expired chemicals are disposed to abroad by the supplier or the suppliers country responsible body .However the remaining 30% give their answer as they are reserved the expired chemical and fertilizer until they got decision from the responsibly body .From this one can understand that flower farming company had expired chemicals in their store but they did not use rather they awaiting for the repose from the country beneficiary body .

In relation with chemical usage farm experts fully agreed on activity of periodic spray thank cleaning is practiced in their farm.

Water Resource utilization – Amongst all natural resources flower farms water is the very relevant. It's obvious that flower farming requires too much water for agronomic activity or sanitation purpose. In the studied flower farms main source of water is from ground water make up 70% and borehole source covered 30% of water source for the farm. However farms require 500 $M^3$of water used per day and the frequency of water used per day is illustrated in the bellow table,

Table 13 ; Frequency of water used per day in

Frequency of water use / day	**Percentage**
Two times	16.7
Three times	50.0
More than this	33.3
Total	100%

Source Own Survey (2019)

Irrigation Mechanism to save water resources – Nowadays irrigation method becomes modern and environmental friendly. Recycling of used water is one of those methods which enables the farm to save water resource and efficient fertilizer use.based on this 62.5 percent of farm professionals agreed that their farm used irrigation system which enables them to save the water resource. Whereas 37.5 of the farm experts did not agreed the existence of water saving mechanism in their farm. However 66,7 % of respondent mentioned that their farm did not recycle water resource and while 33.3 of them give their response as their farm is recycling of used water from the greenhouse and able to save water.

Wetland Availability – Farm wetland recognized as ecologically sustainable option for water pollution control and is designed to take advantage of many of the same processes that occur in natural wetlands but do so within a more controlled environment. They are thus gaining popularity all over the world because unlike conventional treatment systems, they are cost-effective and reliable.

In the study conducted farm 42.9% percent of respondent agreed that wetland is constructed in their company while 57.1% they mentioned that there is no wetland area is constructed in their farm. According to Olson (1993), wetland construction is simple self-regulating and self-maintaining systems which do not rely on complex technology. In addition to pollutant removal functions, wetland have other ecological functions, such as creating habitats for biodiversity and increasing the aesthetics of the site.

Soil Protection – Most commonly flower company's blamed by their negative effect on the soil resource. This mainly because they use inorganic chemicals and fertilizers. On the other way round the way in which flowers are planted can be reduce toxicity effect on the soil resources as well as consecutive environmental and social impacts .In the study conducted farm flower planted in different way but dominantly flower planted on the pot based by making up 60% . Next to that hydroponic way of plating make up of 20 %. hydroponic planting is a method of growing plants without soil by instead using mineral nutrient solution in a water solvent. Whereas only 10% of farm are plant their flower directly on the soil. Which means that there are less availability of soil damage in the studied flower farm.

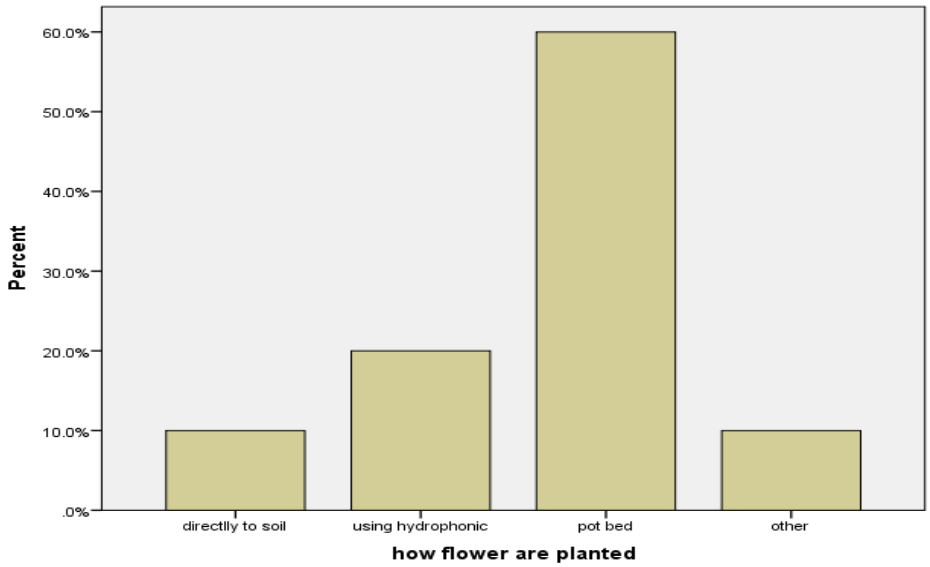

Figure 4:. The method of flower planted per percentage

Integrated Past Management Practice –Integrated past management is a combination of different ideas to solve pest related economic damage on the plant ecosystem.

In surveyed farm experts and professionals fully agreed that their company use IPM practice.

4.3 Social Responsibility Assessment

Social responsibility is a part of corporate social responsibility which incorporate people, planet and profit in balanced manner .company social responsibility assessment is undertaken from the people account which mainly focused on creating good relationship between the company and employee as well as local community .Thus the company should work on the parallel line towards positive relationship for the employee and the local community since they are inseparable.

Table 14. Corporate social responsibility of flower farm industry

The respondents were asked to indicate the extent they concur with the statements below using a Likert scale of 1-5, with 5 being 'strongly agree', 4 being 'agree', 3 being 'neither agree nor disagree', 2 being 'disagree' and 1 being 'strongly disagree', on social impacts related to flower farming.

Effects under consideration	5	4	3	2	1	Mean
Compliance level of environmental and social responsibility is practiced	57.9	21	10.5	5.3	5.3	4.21
Provision of medical service at the farm implemented	50	40		5	5	4.3
Monitoring and evaluation system is in placed to safeguards the society.	25	40	25	10		3.8
Provide training to its employee regarding to social sustainability.	40	25	20	10	5	3.85
Support the community by financing or giving training to the development activity	35	30	15	10	10	3.7
The project activity is acceptable by the surrounding community	21.1	47.4	21.1	5.3	5.3	3.74
Cultural change is occurred due to the project activity	31.6	21.1	26.3	10.5	10.5	3.53
Workers union is established inside the company employee.	63.2	26.3	5.3		5.3	4.42
The workers union has freely anticipated and accomplishes its goals.	35	35	15	15		3.9
Employee freedom to be member of workers union	70	25			5	4.55
Corporate social responsibility of the company	53.3	33.3		6.7	6.7	4.2
Job security and safe working condition	50	35	5	5	5	4.20
The company arranges protective material for the workers.	75	20			5	4.60
Strong mechanism to follow up those PPE are in use .	45	50			5	4.3
The company give adequate training to the workers	45	45	5		5	4.25

According to the data acquired from the likert scale result the 57.9 percent of flower farms high level managers strongly agreed that Compliance level of environmental and social responsibility is practiced in their farm. Similarly, the average response of managers and supervisors more close to the strongly agreed (4.21) level of perception towards company practiced compliance level of environment and social responsibility which is indicated by :-

Provision of medical service at the farm site : There are medical service in both farms and professionals fall in 90 percent strongly agreed and only 10 percent are disagree and neither agree nor disagree .In this regard the writer able to confirm the availability of medical service inside the farm location .However the medical clinic lacks equipment and experienced specialists. This leads to workers refuse to get service from clinic at farm and prefer to go outside of compound and looking for government health station which is very far from the farm location. According to researcher experience in the farm working environment the issue of using outside medical service during working hour is the reason of conflict between supervisors and general workers. This is because the supervisors believe that workers will run away to their own purpose after getting exit letter. For this reason the company prepare car to transport patient from farm to medical station for those who need further treatment.

Monitoring and evaluation system ;The perception requested for Monitoring and evaluation system in placed to safeguards the society showed that equal percent of strongly agreement (25%) and neither agree nor disagreement(25%) is noticed from the result .However the average perception of the farms high positioned employee lays on 3.8 which is close to agreed level of scale .

Social sustainability training ; For the perception requested either the company provide training to its employee regarding to social sustainability or not the widely held (40%) of the employee strongly agreed on this matter. Whereas the average result found in one step down to agreed level (3.85).

Surrounding community support: Regarding to community support by financing or giving training to the development activity, 35% of the respondent strongly agreed on the matter whereas an average of 3.7 agreed with this issue. This result also highly supported by the community elders as a key informant he express his idea like " *Since the establishment of the company our children have access to school near to the farm .This school was established by the farm and still now they are supporting us by giving books ,exercise books ,pen ,pencil which transfer for students who do not have family or for those who come from poor family*" .

During perception assessment on either project activity is acceptable by the surrounding community or not 47.5 percent of respondent agreed with the maximum result. The average perception 3.74 of the employee on the community acceptance of the farm activity is agreement. However 31.6% of respondent strongly agreed that cultural change is occurred due to the project activity .Whereas an average perception of the entire respondent agreed by score 3:53.

Workers union availability and functionality; In respect to workers union establishment inside the company 63.2% of respondent strongly agreed and the average perception level is 4.42 agreed. However the majority (63.2%) of respondents strongly agreed with the availability of workers union only this figure become down to 35% while evaluate either the union freely anticipated and accomplishes its goals. Therefore the average result also shows that 3.9 which is agreement .Additionally70 % of employee strongly agreed that employees had a freedom to be member of workers union and with the average result 4.55 we can generalize that they are strongly agreed on this concept .

Corporate social responsibility; 50 % of the respondent strongly agreed that their company respect for corporate social responsibility and average answer for this concept shows that 4.20 and in agreement level.

Job security and safe working condition ;Following to that 50% of respondent strongly agreed that there are job security and safe working condition in their company and the average result shows that agree with the score of 4.20. This can be indicated by 75% of respondents strongly agreed that the company arranges protective material for the workers and 4.60 of average answer also strongly agreed with this idea. However only 50% of respondents strongly agreed with the arranged protective materials are in proper use through strong mechanisms to follow up those PPE are in use .The average result also scored 4.3 and it can be categorized under agreed on following up of PPE use. In addition to this 45% of respondent strongly agreed that the company give adequate training to the workers regarding to safety rule and regulation. The average result 4.25 also shows that the respondents agreed that the company give safety training to the employee.

CHAPTER FIVE: CONCLUSSION AND RECOMMENDATION

The floriculture industry is one of the newly emerging industries of Ethiopia. Since its modest beginning in the early 1990s, it has created employment opportunities for a large section of the population. Realizing its capacity to generate employment, foreign exchange and the country's geography advantage, the government is also encouraging investors to invest in the sector. Despite these advantages, negative

aspects are existed behind the industry which hindered from the production of sustainable flower. In order to shape the study in to sustainable flower farming the impact of flower farming industry classified in to three .Impact on the environment ,impact on the society and impact on the economy of the employee .In the environmental impact category indicators like chemical and fertilizer application ,solid west disposal mechanism , environmental management plan ,sustainable uses of resources had been addressed in this study .On the social aspect of flower farming industry availability and practice of corporate social responsibility ,social acceptance of farm ,job security, availability and freedom to join workers union are included .Finally the third aspect of sustainable development which is economical advantage of farm to its employee was studied .Wage satisfaction/fair wage, receiving a bonus, receiving a deduction, promotion possibilities other benefits are considered as the indicator of economic implication.

Of course commercial flower farms significantly supplement the national economy and contribute to an economical sustainability through generating foreign exchange currency and creates job for citizens. However this is in cost of local people and poor flower farm employees because there is low salary and benefit package is giving for the general workers and there are also less promotion possibility. On the other way expert level agronomists, supervisors and managers has an attractive salary and incentives. The study result also showed that employees are less satisfied by this .Even though, the employees are getting either monthly or yearly based bonus ,its linked with their sick leave record and mistake they did .so that their additional benefit systematically used as a means of deduction on their income .Therefore ,in order to balance the employee or country benefit with its working condition key stakeholders like EPHIA , investment commission and industry mister should also act on the working condition of flower farm employees specially general workers who are exposed to different short or long term diseases due to harmful chemicals applied for the flower production .

In regard to social aspect of sustainable flower farming the companies are working in a good condition by applying corporate social responsibility .This is might be because of international and national certification which have great value in their market system .

Finally, the major and most worrying negative factor of the flower is focused on environmental issue because floriculture requires intensive use of chemical fertilizers and pesticides and needs huge amounts of water than conventional farming in addition to thoroughly monitored waste management system. If it is not well managed, whatever the farms put on the ground, sooner or later, will end up in the water or soil. In addition, the country has a history of a deadly cycle of drought and famine for the decades due to

environmental degradation. So that natural resources like land should protect from damage and water should be free from pollution and the recycling of resources mainly water should be adopted. In addition regional and national environmental protection authority should crate strong mechanism on this and frequent unexpected visit of farms should practice.

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The questions has three parts which are based on three pillars of sustainable development (environmental, economic and social factors) .

Part I –Economic implication of Flower farm to the employee

A. Personal information

1. Age? ..... Sex? ..... Education Level: …….. Family situation: …… (Single, Married, Divorced)
2. How many members are in your family? .....
3. How far your home is from the farm?.....
4. Which section of the farm do you work? .....
5. Is that based your choice? Yes:……No:……..
    a. If yes, why did you choose to work in this section? ……..
6. Are you the head of your family? Yes:…….. No:……
    a. If not, what member are you? …….....

B. Experiences

1. Are you a permanent or seasonal employee? ……
2. How long have you worked in this company? ..... Years
3. If experienced in this company, did you think your experience add value in your salary ?.....
4. Have you any previous work experience? Yes …….. No …….; ……. Years
   If yes write previous years worked and position ……..
5. How many hours do you work? per day ..... per week …….. per month ……..

C. Wages and Expenditure

1. What is your salary? per day ..... per week …….. per month ……..
2. What proportion of your monthly wages do you spend on:

A. food……..B. housing ……..C. transportation …….
D. Children's education ……..E. saving ……. F. others ……

3. Do you feel that your economic condition has improved or worsened since you started work at the farm? Explain.....

4 .Do you have involved any other income generating activity like petty trade ?
   Yes …….No ----------

5. If yes what is that? ……

How did you see it if compared from farm salary …….?
6. Is your income is enough to cover living expenses, if not what other mechanisms do you use to cover your expenses? ……..

7. Do you do much overtime work? Yes ……. No ……. If yes, do you get paid for it? ……
8. How much do you get paid for overtime work? per day ..... per week …….. per month ……..
9. Do you know how the OT payment is calculated? ---------Yes ----------No ----------

D. Additional Benefits

1. Do you receive annual or monthly bonus? Yes ……. No …… if yes, how much is it? .....
2.Is there any incentive mechanism given by the company to motivate hard workers ?
Yes ……No---------- If yes explain it …….
3.Dose this incentive mechanism fairly distributed to those who entitled ? ……
4.Is there any punishment activity done by supervisors on the time of doing mistake?
Yes …….No ----------
If yes is there any means to touch your benefit as well as bonus or salary?.....
5. Is transport provided by your company? Yes …… No …….....
6.Did the company have medical insurance to the employee ? Yes ----------No----------
If no for the above question is the sick leave from outside health station is acceptable ?
7.Is your sick leave often acceptable by the company ?.....
8. Dose this sick leave linked with your additional benefit from the company ?
Yes …No If yes please explain? …….
10. How many days of paid leave do you receive each year? .....
11. Do you have access to paid maternity leave? Yes …… No …….

12. Does the farm provide food assistance/discounts/rations/assistance for funerals?
Yes …….. No …….. Explain ……

13. Did you experienced any promotion in this company ?.....yes ……..No
If yes how did you find it ?.....
14.Is there any miscellaneous benefit you receive from company just because of being company employee ? Yes……No …… Please mention them

Part II Social Impacts of flower farm Industry

A. Company Social Responsibility

In order to gather relevant information towards social impact of flower industry I would like to use Likert scale of 1-5, with **5** being '**strongly agree'**, **4** being **'agree', 3** being '**neither Agree nor disagree'**, **2** being **'disagree'** and **1** being '**strongly disagree'**, which filled by the expertise or professionals of the flower farm .

Whereas the scale will be measured by the company's high level managers as well as group leaders and skilled workers .

Effects under consideration	**1**	**2**	**3**	**4**	**5**
Compliance level of environmental and social responsibility is practiced					
Provision of medical service at the farm implemented					
Monitoring and evaluation system is in placed to safeguards the society.					

Provide training to its employee regarding to social sustainability.					
Support the community by financing or giving training to the development activity					
The project activity is acceptable by the surrounding community					
Cultural change is occurred due to the project activity					
Workers union is established inside the company employee.					
The workers union has freely anticipated and accomplishes its goals.					
Employee freedom to be member of workers union					
Corporate social responsibility of the company					
Job security and safe working condition					
The company arranges protective material for the workers.					
Strong mechanism to follow up those PPE are in use .					
The company give adequate training to the workers interrelated to safety rule and regulation.					

B .Company current status

Using the below key question the researcher can get necessary information regarding to the company current status based on the standard formulated by the country .

1. In which level of compliance your farm exist?
   a. Gold Level
   b. Silver Level
   c. Bronze Level
2. How often your company modifies or renews the compliance certificate?
3. BY whom it was done? ----------
4. Did internal auditing practiced in your farm ? Yes---------- No----------
5. If yes by whom it is done?
6. Dose the farm has any certification scheme from Cop, Global Gap , Fair Trade,Rainforest alliance ETC ?
   If Yes please mention ----------

Interview Schedule

This is an interview schedule for the key informants of surrounding to sendafa and koka area. It's expected to Guide the researcher on the issues concerning the flower farm social and environmental impact in Dire Sekoru area.

Kindly answer by indicate the most appropriate answer in the spaces provided and the information will serve for education purpose only .

1.Did you believe that flower farm industry have positive impact on the community ?

Yes …….No ……..

2. If yes, what are the most dominant one?..... And if
3. How did you manage that negative impact?.....
4. Did you ever have a meeting with farm representatives towards company adverse impact on the community?
5. Did the government bureaus have regular follow up to the farm activity?
6. Is there any conflict history on this flower farm?
7. If yes what was the main reason for the conflict and how did the company mange it?
…….....
8. What is your recommendation to prevent those impact ?
9. Do you think job opportunity created by the farm cause difficulty to get social services like health, school to the community?
10.If yes for the above question ,dose this population pressure due to job opportunity consequence any economic ,social and environmental damage ?
11.Dose the company make access to school ,buses ,health facility ,water e.t.c for the surrounding community ?
12. The relationship between the company ,with workers, elders and surrounding community ?

Part III Effects of Flower farm activity in to the environment

A. Project related activity

The necessary data related to environmental impact of flower farm will collect by Using a Likert scale of 1-5, with **5** being '**strongly agree'**, **4** being **'agree', 3** being '**neither Agree nor disagree'**, **2** being **'disagree'** and **1** being '**strongly disagree'**, which filled by the expertise or professionals of the flower farm .(Production managers and spray supervisor)

Effects under consideration	**1**	**2**	**3**	**4**	**5**
The company uses inorganic chemicals and fertilizers					
Chemicals and fertilizers imported or locally purchased are approved by the authority					
Experts and professionals are in place to use those chemicals and fertilizers					
The quality or standard and quantity regulation of chemicals are examine before application or usage					
Adequate mechanism for the disposal of empty container is experienced					
Regular soil and irrigation water test are done					
Well contracted drainage system is established.					
The solid waste disposal mechanism is practiced					
Recycling of used product					
Efficient use of resources like water, land					

Existence and applicability of EMP					
Follow up and Implementation of EMP					
EIA document in place before the project implementation					

1.What type of floral waste disposal mechanism you apply in your farm ? **……**
2. Does the farm use foliar fertilizer applications…?.....
3**.** When are pesticides applied during the day/evening/night? ……
4. What happened with expired active ingredients? ……
5. Does your farm practice spray tank cleaning ? Yes……..No…….
   a. If yes how often ?.....
   b. Where is it undertaken?.....
   c. Is mode of action determined to make spray program? ……..

B. Related to water resources

1. What is a source of water for your flower farming?
River or Lake --------Reservoir -------- Ground water ---------- Other sources ----------

2. How many M^3 of water used per day ? ----------

3.The frequency of water providing for flower pre day ?
One Times ----------Two times--------- Three times More than this ----------
4. Is there any types of irrigation mechanism which can save the loss of water ?
Yes ---------- NO ----------
5. If yes what type of irrigation system do you use ? ----------
6. Is there any recycling of waste water for re utilization ?
Yes ---------- No ----------
7. Does the farm make use of a wetland?

C. Related to soil

1.How the flowers are planted ?
Directly to the soil ---------- Using hydroponic --------- Pot Bed ----------
Mixed ----------Other----------
2. How many of hectare /GH planted with soil bed ? -------and Pot ?-------- and HP?----------
3.Does your farm apply IPM ? Yes----------No ----------