**DECLARATION**

I hereby declare that the dissertation entitled **AN ASSESSMENT OF THE UTILIZATION OF PESTICIDES AND SAFTEY PRACTICES OF THE FLORICULTURE INDUSTRIES: THE CASE OF THREE FLORICULTURE FARMS AT SEBETA TOWN, OROMIA REGION, ETHIOPIA.**

Submitted by me for the partial fulfillment of the M.A in Rural Development to Indira Gandhi National Open University, (IGNOU) New Delhi is my own original work and has not been submitted earlier either to IGNOU or to any other institution for the fulfillment of the requirement for any course of study. I also declare that no chapter of this manuscript in whole or in part is lifted and incorporated in this report from any earlier work done by me or others.

Place: Addis Ababa Signature:

Date: Oct.07,2011 Enrolment No:089132459

 Name: Teshome Mosissa Negassa

 Address: Sebeta town, kebele 02

 Tel: Mobile- +251-0917-81-24-24

 -Office: +251-0115-53-45-94

 E-mail:teshmosi@yahoo.com

 Addis Ababa, Ethiopia.

**CERTIFICATE**

This is to certify that Mr. Teshome Mosissa Negassa student of M.A. (RD) from Indira Gandhi National Open University, New Delhi was working under my supervision and guidance for his project Work for the course MRDP-001. His project work entitled:

**AN ASSESSMENT OF THE UTILIZATION OF PESTICIDES AND SAFTEY PRACTICES OF THE FLORICULTURE INDUSTRIES: THE CASE OF THREE FLORICULTURE FARMS AT SEBETA TOWN, OROMIA REGION, ETHIOPIA.**

Which he is submitting, is his genuine and original work.

Place: Addis Ababa Signature:

Date: Name: Mengistu Huluka (PHD)

 Address: St. Mary’s University College

 P.O.Box: 1211

 Addis Ababa, Ethiopia.

**ACKNOWLEDGMENTS**

I am indebted to my advisor Dr. Mengistu Huluka for his resourceful comments, suggestions, and guidance support he provided to me during this thesis preparation. My special thanks also go to my colleague Mr. Jebessa Tefera for his valuable comments.

My greatest thank goes to my family: my wife Bizunesh Fite for her continued support and encouragement which my entire dream wouldn’t have been realized without her moral and financial support. Special thanks also goes to my children’s Ayantu, Abdi and Mersimoy for their patience in giving me a study time and moral support, otherwise which I couldn’t have been easily completed my education.

I am also grateful to my friend Fekadu wakjira from UNICEF for the psychological and moral support he rendered me during my entire study time. My thanks also go to Mr. Alemayehu Geleta and Mr. Tadele Wole in providing me very useful documents, reference materials, and information’s.

My sincere thanks also go to the different institutions that helped me in Providing data’s, information’s and clarifications I requested. Last but not least, I would like to appreciate and thank all the staffs of the three floriculture farms that had provided me the necessary information’s as per my request.

i

**Table of Contents**

**Page**

Acknowledgements………………………………………………………………………….i

Table of Contents……………………………………………………………………………ii

List of Tables…………………………………………………………………………………v

List of Appendices……………………………………………………………………………vi

Acronyms………………………………………………………………………………..........v

Abstract………………………………………………………………………………………vi

[CHAPTER ONE 1](#_Toc303869963)

[1. INTRODUCTION 1](#_Toc303869964)

[1.1. Back Ground and Justification of the Study 1](#_Toc303869965)

[1.2. Statement of the Problem 7](#_Toc303869966)

[1.3. Definitions of Important Terms 9](#_Toc303869967)

[1.4. Objectives of the Study 10](#_Toc303869968)

[1.5. Research Questions 11](#_Toc303869969)

[1.6. Structure of the Document 11](#_Toc303869970)

[CHAPTER TWO 13](#_Toc303869971)

[2. REVIEW OF LITERATURE 13](#_Toc303869972)

[2.1. Constitutional support, Frame Works & Code of Practices towards labor issues 13](#_Toc303869973)

[2.1.1. Major Ethiopian Legislations supporting Labor Issues 13](#_Toc303869974)

[2.1.2. Ethiopian Horticultural Producers and Exporters Association (EHPEA) 15](#_Toc303869975)

[Code of Practice 15](#_Toc303869976)

ii

[2.1.3. Corporate Social Responsibility (CSR) 16](#_Toc303869977)

[2.1.4. Milieu Project Sierteelt (MPS) 17](#_Toc303869978)

[2.1.5. Global Conventions 18](#_Toc303869979)

[2.2. Pesticide Handling, Storage, and Disposal 19](#_Toc303869980)

[2.2.1. Pesticide Storage 21](#_Toc303869981)

[2.2.2. Pesticide Mixing 21](#_Toc303869982)

[2.2.3. Washing and Rinsing Operations 22](#_Toc303869983)

[2.2.4. Pesticides Containers Disposal 22](#_Toc303869984)

[2.3. Pesticides and the Challenges to Environment and Health 23](#_Toc303869985)

[2.4. Strategies to Minimize the Hazards of Pesticides 25](#_Toc303869986)

[2.4.1. Knowledge, Certification and Training 25](#_Toc303869987)

[2.4.2. Personal Protective Device (PPD) 27](#_Toc303869988)

[2.4.3. Washing Facilities 27](#_Toc303869989)

[2.4.4. Re-Entry Intervals 27](#_Toc303869990)

[2.4.5. Working Hours 29](#_Toc303869991)

[2.4.6. Medical and Health Surveillance of Workers 29](#_Toc303869992)

[2.4.7. Promotion of Integrated Pest Management (IPM) 30](#_Toc303869993)

[CHAPTER THREE 32](#_Toc303869994)

[3. RESEARCH METHODOLOGY 32](#_Toc303869995)

[3.1. The Study Area and General Farm Conditions 32](#_Toc303869996)

iii

[3.2. Study Design 33](#_Toc303869997)

[3.3. Sampling Techniques 33](#_Toc303869998)

[3.4. Research Instruments for Data Collection 34](#_Toc303869999)

[3.5. Nature of Data’s Collected 34](#_Toc303870000)

[3.6. Data Processing and Analysis 35](#_Toc303870001)

[3.7. Ethical Considerations 35](#_Toc303870002)

[CHAPTER FOUR 36](#_Toc303870003)

[4. RESULTS AND DISCUSSIONS 36](#_Toc303870004)

[CHAPTER FIVE 50](#_Toc303870005)

[5. CONCLUSION AND RECOMMENDATIONS 50](#_Toc303870006)

[5.1. CONCLUSION 50](#_Toc303870007)

[5.2. RECOMMENDATIONS 52](#_Toc303870008)

[REFERENCES 60](#_Toc303870009)

[ANNEXES 66](#_Toc303870012)

iv

**List of Tables**

 **Page**

# Table 1: General information of the farms .........................................................................................33

Table 2: Distribution of the respondents by age……………………………………………………………….36

Table 3: Educational status of the respondents.....................................................................37

Table 4: Lists of major chemicals used in the farms.............................................................38

Table 5: Respondents knowledge of chemical naming….....................................................39

Table 6: Respondents knowledge of the effects of chemicals on health

 and environment.......................................................................................................40

Table 7: Provision of training for respondents on chemicals...............................................41

Table 8: Response of Re-entry to green house after application …………………..............43

Table 9: Responses of workers on PPE provision…………………………………...............45

Table 10: Perceived health symptoms of the respondents………………………….............47

v

**List of Appendices**

 **Page**

Annex 1:Interview schedule for floriculture workers…………………………………..60

Annex 2:Interview guides on general condition of the farms………………………….65

Annex 3:Interview guides to stakeholders………………………………………………69

Annex 4:List of registered pesticides in Ethiopia………………………………………….70

Annex 5: Approved project proposal………………………………………………………86

Vi

 **Acronyms**

 ASP.................................African Stockpile Program

 CoC..................................Code of Conduct

 CSR .................................Corporate Social Responsibility

 EHPEA..............................Ethiopian Horticultural Producers and Exporters Association

 EUREP...............................European Retail Organization

 FAO...................................Food and Agriculture Organization

 GAP ..................................Good Agricultural Practice

 ILO ....................................International Labor Organization

 IPM......................................Integrated Pest Management

 MoA ...................................Ministry of Agriculture

 MPS.....................................Milieu Project Sierteelt

 SQ .......................................Socially Qualified

 MOLSA................................Ministry of Labor and Social Affairs

 MRLs.....................................Minimum Residue Levels

 PCBs…………………… polychlorinated biphenyls

 PIC ……………………Prior Informed Consent

vii

 POPs...................................Persistent Organic Pollutants

 PPD ...................................Personal Protective Device

 PPE ...................................Personal Protective Equipment

 UNEP.................................United Nations Environmental Program

 USEPA...............................United States Environmental Protection Authority

 WHO ................................World Health Organization Program

viii

**ABSTRACT**

This thesis attempts to explore in describing the safe working conditions exercised in pesticide handling, mixing, spraying and disposal mechanisms by the three floriculture farm workers located in Oromia region, Sebeta town administration. The study used a cross sectional descriptive design and primary data collection was made from 28 respondents between August 04-11, 2011 from Tal flowers Plc. Saron Rose Agro farm Plc. and Ethio-Passion Agro Plc. Interview schedule and observation were used as major data collection tools from the respondents and semi-structured questionnaires were also prepared to collect relevant information from different stakeholders including the farm managers of the three farms.

Different safe working practice indicators that ought to minimize the exposure of risk factors to pesticide danger in areas of: the proper use of personal protective equipment’s, the availability of washing facilities, the re-entry interval to green house, working hour to provide adequate period of rest, knowledge of workers on pesticide management and handling, provision of trainings on pesticide management, medical health care and checkup provision to the workers, chemical waste disposal mechanisms were all descriptively analyzed and besides the self-reported health symptoms of the workers were also described.

The overall study result indicates, though there were efforts to minimize the exposure risk of workers from chemicals through the provision of different safe working conditions, there has to be a way and mechanism by way of controlling the different hazard exposure risk in particular the re-entry time interval management, medical health provision, provision of quality and standardized PPE and awareness raising of the workers under risk through different trainings.

ix