

50/100

**BUSITEMA UNIVERSITY ARAPAI CAMPUS.**  
**FACULTY OF AGRICULTURE AND ANIMAL SCIENCES**  
**DEPARTMENT OF AGRI BUSSINESS AND EXTENSION.**

**REPORT TITLE : A REPORT ON INDUSTRIAL TRAINING.**

**EMPLOYER'S NAME : MINISTRY OF AGRICULTURE, ANIMAL INDUSTRY AND FISHERIES (MAAIF), CROP PROTECTION DEPARTMENT.**

**LOCATION : P.O. BOX 102 ENTEBBE (U).**

**DATE OF REPORT : FROM 28<sup>TH</sup> FEBRUARY TO 6<sup>TH</sup> MAY 2022.**

**COMPILED BY : MUNGURYEK DEBORAH**

**REGISTRATION No : BU/UG/2019/2924.**

**DCP 2A.**

**COURSE NAME : INDUSTRIAL TRAINING; DCP 1208.**

**CONTACT : +256-773-852-023 / +256-756-941-980.**

**Email : [munguryekdeborah@gmail.com](mailto:munguryekdeborah@gmail.com).**



of

**TO BE SUBMITTED TO THE DEPARTMENT OF CROP PRODUCTION AND MANAGEMENT IN PARTIAL FULFILLMENT FOR THE AWARD OF DIPLOMA IN CROP PRODUCTION AND MANAGEMENT OF BUSITEMA UNIVERSITY.**

2022.

**SUBMISSION DATE:.....18/5/2022.....**

**DECLARATION.**

I **MUNGURYEK DEBORAH** a student of Busitema University Arapai Campus hereby declare that all the findings presented in this report and all the attachments are correct to the best of my knowledge and were out of my devoted work compiled after Research and Field study and not by anybody else as a result of the Industrial Training program I undertook at the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) and it has never been awarded any Academic credit of any Qualification at any other University or Institution.

Signature..........

Date...06<sup>th</sup> MAY 2022.....

d

**NAME: MUNGURYEK DEBORAH.**

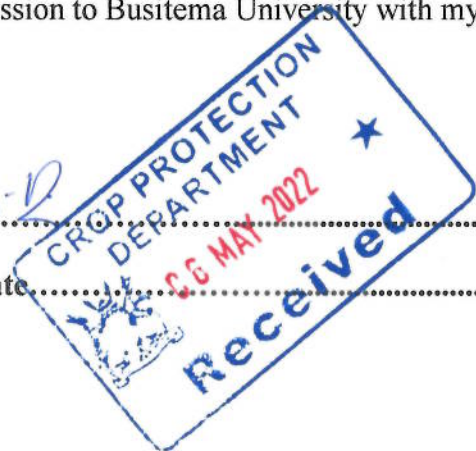
**APPROVAL.**

This field attachment report is an original work of **MUNGURYEK DEBORAH** who has been under my Supervision and it is now ready for submission to Busitema University with my approval.

**FIELD SUPERVISOR**

Approved by..........

Signature.......... Date.....



**ACADEMIC SUPERVISOR**

Name.....

Signature..... Date.....



## **DEDICATION**

Heartfully, my sincere expressions and dedication of this report goes to my lovely Father; Mr. Okwai Dickson, Mother; Aol Dorine Okwai, Brothers and Sisters, and also to all those who have supported me not only academically but also Physically, Mentally, Materially and Financially in all aspects of life and during the time of conducting my Industrial Training to see that my work is completed successfully and those that are still supporting me up to now as a sign of encouragement for Academic enhancement.

Secondly, I dedicate this report to my Academic supervisor; Dr. Etyang Patrick and my Field supervisor Mr. Kutunga David (Principal Agricultural Inspector), and to all the University lecturers for their great advice they gave and not forgetting all the Staff of Ministry of Agriculture Animal Industry and Fisheries (MAAIF); Crop Protection Department for supporting me mentally and for their kind hospitality and tireless support enriched to me.

I also appreciate all my fellow friends who have been with me Physically and those who communicated with me throughout my Industrial Training, giving me all kind of support and advice for the success of my Education.

**May the almighty God Reward and Bless you all Abundantly.**

87

## ACKNOWLEDGEMENT.

A script of this nature can only be completed with External support and Guidance. It is under this note that I wish to extend my sincere Gratitude and Appreciation to the following;

I greatly acknowledge my sincere thanks to the Almighty God who has protected me through the training period. Then, I extend my gratitude to the Human Resource; MAAIF, The Commissioner and the Entire staff of Crop Protection Department in the Ministry of Agriculture, Animal Industry and Fisheries for accepting me to do my industrial training in their Ministry and for providing comfortable and convenient accommodation during the training, and to the various people that have supported me Financially, Academically, Morally, and Spiritually during my stay at MAAIF.

Special thanks go to my supervisors; Mr. Kutunga David (Field supervisor) and Dr. Etyang Patrick (Academic supervisor) for their Infinite assistance, Guidance, Generosity and Tolerance during the Training.

I also wish to extend my sincere gratitude and appreciation to my parents Mr. Okwai Dickson and Mrs. Aol Dorine Okwai, Relatives and Friends who supported me during the time of Industrial Training

I also Acknowledge my course mates who co-operated with me during the Training and many other people who contributed Directly and Indirectly during the process of organizing this Industrial Training field work report offering tireless guidance, support and expertise despite all the responsibilities you had.

I owe you all much for the support both morally and materially for the success of this Report and Training.

**May God bless and reward you all abundantly for the kindness and sympathy towards me during the Training.**

# TABLE OF CONTENTS.

<b>CONTENTS</b>	
DECLARATION.....	i
APPROVAL.....	i
DEDICATION.....	ii
ACKNOWLEDGEMENT.....	iii
TABLE OF CONTENTS.....	iv
LIST OF ACRONYMS.....	vii
LIST OF TABLES AND FIGURES.....	viii
ABSTRACT.....	ix
CHAPTER ONE.....	1
1.0. Background of the field attachment.....	1
1.1. Introduction of Field Attachment.....	1
1.2. Objectives of the field attachment.....	1
1.3. Background of MAAIF.....	2
1.4. MAAIF Leadership.....	2
1.5. Location.....	2
1.6. Basic Contacts.....	2
1.7. MAAIF Directorates.....	2
1.8. MAAIF Agencies.....	2
1.9. MAAIF Departments.....	3
1.10. Role of MAAIF. (Mandate and Functions).....	3
1.11. Aim of MAAIF.....	3
1.12. Vision of MAAIF.....	3
1.13. Mission of MAAIF.....	3
1.14. Objective of MAAIF.....	3
1.15. Directorate of Crop Resource.....	3
1.15.0. Crop Inspection:.....	4
1.15.1. Crop Production: Is mandated to promote and guide;.....	4
1.15.2. Crop Protection:.....	4
1.16. Organization Structure of Crop Protection Department, MAAIF.....	4
CHAPTER TWO.....	5
2.0. Description of the attachment.....	5
2.0.1 Task description.....	5
2.1. Office Management.....	5
2.1.0. Elements of office management.....	5
2.1.1. Importance of office management.....	5
2.2. Agroforestry and FMNR.....	6

Compiled by MUNGURYEK DEBORAH. BU/UG/2019/2924

2.2.1. Advantages of Agro forestry.....	6
2.2.2. Disadvantages of Agro forestry .....	6
2.2.3. Application of FMNR model in Agro forestry: .....	6
2.2.4. Benefits of FMNR .....	7
2.2.5. Species to consider for FMNR.....	7
2.2.6. Dos and Don'ts in tree pruning.....	7
2.3. Nursery Bed Establishment and Management:.....	7
2.3.1. Seed Bed;.....	7
2.3.2. Nursery Bed;.....	7
2.3.3. Factors to consider before selecting a site for Nursery:.....	7
2.3.4. How to care for seedlings in a nursery Bed: .....	8
2.3.5. Crop management.....	8
2.3.6. Tomato management.....	8
2.3.7. Management practices .....	8
2.3.8. Tomato diseases.....	9
2.3.9. Tomato pests.....	10
2.4. Mobilization.....	11
2.4.0. Benefits of mobilization .....	11
2.4.1. Sensitization.....	12
2.5. Awareness Materials.....	12
2.5.0. Intentions of making the awareness materials.....	12
2.6. Rabbit Production.....	12
2.6.0. Importance of rearing Rabbits.....	13
2.7. Departmental Meetings.....	13
2.7.0. Significance of conducting meetings.....	13
2.8. Inspection.....	13
2.8.0. Aims of carrying out Inspection.....	13
2.9. Expositions and Exhibitions.....	13
2.9.0. Importance of Expositions and Exhibitions.....	14
2.9.1. Importance of Expositions and Exhibitions to students.....	14
2.10. Data Entry.....	14
2.10.0. Significance of Data Entry.....	14
2.11. Project Concept Note.....	15
2.11.0. What should be the size? .....	15
2.11.1. Purpose of writing a Concept Note.....	15
2.12. Ethical Code of Conduct for Agricultural Extension and Advisory Service Providers.....	15
2.12.0. Definitions and interpretations of key terms.....	15
2.12.1. Background of the Ethical Code of Conduct.....	15

2.12.2. Why the Ethical Code? .....	16
2.12.3. Target users of the code. ....	16
2.12.4. Value under pinning professional conduct for AEAS providers. ....	16
2.12.5. Rewards, Sanctions and Conflict resolution. ....	17
2.13. Plant Wise Diagnostic Field Guide.....	18
12.13.0. Field diagnosis. (A process of elimination). ....	18
2.14. Field Visits.....	18
2.14.0. Step 1. Get in close. ....	19
2.14.1. Step 2. Look at the whole plant. (Including roots) ....	19
2.14.2. Step 3. Examine groups of plants. ....	19
2.14.3. Step4. Speak to farmers and other local extension workers. ....	19
2.15. Making Recommendations.....	19
2.15.0. Big 5 key considerations when making a recommendation.....	19
2.15.1. Economic.....	20
2.15.2. Effective.....	20
2.15.3. Safe.....	20
2.15.4. Practical.....	21
2.15.5. Locally available.....	21
2.16. Integrated Pest Management (IPM).....	21
2.16.0. Pesticide Resistance Management.....	22
2.17. Invasive Alien Species.....	22
2.17.1. Management of invasive alien plants.....	23
CHAPTER THREE.....	24
3.0. Impact Of The Attachment.....	24
3.1. Social conditions and Work climate.....	24
3.2. Mentoring condition.....	24
3.3. Skills and Qualifications gained during the internship period.....	24
3.4. Experiences unearthed from the internship placement.....	25
3.5. Challenges faced by the student during the field work.....	25
3.6. How the challenges were managed.....	25
3.7. Other Exertions conducted during the training.....	26
3.8. Influence of the attachment activities on future carrier plans.....	26
3.9. Correlation of attachment activities with classroom knowledge.....	26
CHAPTER FOUR.....	27
4.0. Conclusion.....	27
4.1. Recommendations. (TO: MAAIF, University and students).....	27
APPENDICES.....	28

## LIST OF ACRONYMS.

<b>AEAS</b>	Agricultural Extension and Advisory Services.
<b>AAW</b>	African Armyworm
<b>CPD</b>	Crop Protection Department.
<b>CDO</b>	Cotton Development Organization.
<b>COCTU</b>	Co-ordinating Office for Control of Trypanosomiasis in Uganda.
<b>DDA</b>	Dairy Development Authority.
<b>DCP</b>	Diploma in Crop Production and Management.
<b>DAES</b>	Directorate of Agricultural Extension Services.
<hr/>	
<b>DLCO-EA</b>	Desert Locust Control Organization for East Africa.
<b>FAO</b>	Food and Agriculture Organization
<b>FAW</b>	Fall Army worm
<b>FMNR</b>	Farmer Managed Natural Regeneration.
<b>IPM</b>	Integrated Pest Management.
<b>IT</b>	Industrial Training
<b>MAAIF</b>	Ministry of Agriculture, Animal Industry and Fisheries.
<b>NAADS</b>	National Agricultural Advisory Services
<b>NARO</b>	National Agricultural Research Organization.
<b>NAGRC&amp;DB</b>	National Animal Genetic Resource Center & Bata Bank.
<b>NGO</b>	Non-Governmental Organizations
<b>NAEASRB</b>	National Agricultural Extension and Advisory Services Regulatory Body.
<hr/>	
<b>NAEP</b>	National Agricultural Extension Policy.
<b>UFFAAS</b>	Uganda Forum For Agricultural Advisory Services.
<b>USAID</b>	United States Agency for International Development.



## LIST OF TABLES AND FIGURES.

Table 1. Showing symptoms associated with acute organophosphate poisoning (including chlorpyrifos, Malathion and Dimethoate).

Table 2. Indicating Field Diagnosis and Recommendation over view

Table 3. Showing Examples of different control methods.

Table 4. Indicates the Advantages and Disadvantages of Foliar applications and stem applications of herbicides.

Table 5. Indicates the means by which various pests survive in absence of crop plants

Table 6. Shows means by which pests can be moved from one plant or area to another.

Table 7. Showing some pests, the damages they cause and their control.

Table 8. Showing some diseases, their symptoms and management.

Fig 1. Indicating disease identification.

Fig 2. Indicating sexing of Rabbits

Fig 3. Indicating a Departmental Meeting.

Fig 4. Indicating inspection of maize gardens for FAW.

Fig 5. Indicating irrigation of vegetable gardens.

Fig 6. Indicating demonstration of how to set up traps

Fig 7. Indicating Transplanting of straw berries.

Fig 8. Indicating Office work and Management.

Fig 9. Indicating Sensitization on Aloe vera plants.

~~Fig 10. Indicating mulching of tomato plants.~~

Fig. 11. Indicating a Factsheet showing the Biology, Damages and Control of snails and slugs.

Fig 12. Indicating a fact sheet on Potato Cyst Nematode

## ABSTRACT

The Industrial Training exercise was held at Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) for a period of 10 weeks, (28<sup>TH</sup> February to 6<sup>TH</sup> May 2022).

The Main Objective was to Acquire practical skills in the Field and to relate the Theoretical Knowledge gained in Class to the Field practical situations/ sessions.

This Industrial Training report contains the Description of Industrial Training, Background of Industrial Training, Objectives of the field study to increase the levels of basic education, Implementation strategy and improvement on my practical skills.

The report consists of Background, the structure of the organization and activities that were carried out while conducting industrial training at MAAIF. Major activities that I got involved in during the IT period include Making public statements, Making awareness materials (fact sheets, posters, brochures), Writing loose minutes of requesting funds, Demonstrations on how to assemble sticky traps, Drafting work plans and budgets, Data interpretation, Documentation of field data, Office work and Management, Mobilization and Sensitization of farmers, Nursery bed establishment.

During my attachment, I acquired knowledge and skills like; Discussing problems with community members (farmers) which improved on my communication skills, Monitoring and evaluation, Code of conduct while at work, Relationship with other staff members' administrative skills, Public sensitization, Record keeping and Analysis of records, writing loose minutes skills, FMNR, Agroforestry and Tree nursery Management etc.

In addition to the above, the report also has the challenges encountered while carrying out field work for example lack of facilitation to the field, Bad weather such as heavy rains which interrupted with the sensitization programs and travelling to the different venues which interfered field activities and how challenges were managed. It also includes the correlation of field work to classroom knowledge.

There is also conclusion where I emphasized on my important points in the report including strengths and weaknesses. The strength includes the skills I gained for example monitoring and evaluation, data collection and analysis, sensitization and mobilization skills.

The report also covers various Recommendations also included for MAAIF, Busitema University and the Students at large as ways forward in order to have better Trainings in the future.

Lastly, the report contains Appendices which shows various tables indicating important information, Photos taken during the training and References that can back up my report.

Compiled by MUNGURYEK DEBORAH. BU/UG/2019/2924

## CHAPTER ONE.

### 1.0. Background of the field attachment

Industrial Training is a Practical program offered by Busitema University as a way of exposing students to a working environment. At Busitema University Arapai Campus, this program is under taken by all students at the end of every academic year for a period of **Ten weeks** and I was attached to Ministry of Agriculture, Animal Industry and Fisheries in the Crop Protection Department for the internship practice.

### 1.1. Introduction of Field Attachment:

The Industrial Training report is developed from the information gathered through various activities and programs implemented with stakeholders and partners under MAAIF; Crop protection Department Entebbe (U). The Industrial Training was carried out from **28<sup>th</sup> February TO 6<sup>th</sup> May, 2022** In partial fulfilment of the requirements for the award of Diploma in Crop Production and Management of Busitema University Arapai campus. The Industrial Training involved engagement in various activities with various stakeholders including farmers, staff and other people in their different capacities.

This report describes the activities encountered, skills and knowledge gained, challenges faced during the internship, conclusion of the report and recommendations derived from the challenges faced during the time of industrial training.

### 1.2. Objectives of the field attachment.

The objectives of Industrial Training are;

- ✓ To acquire skills for mature understanding of the Diploma in Crop Production and Management course and have what was lectured in class applied practically in the field.
- ✓ To put into practice the knowledge gained from the course unit like research and Agricultural Extension which gives research skills.
- ✓ To expose the student to real life working conditions
- ✓ To give the student an opportunity to interact with the stake holders and potential employers.
- ✓ To give the student an opportunity to apply the principles and techniques theoretically learnt into problem solving skills.
- ✓ To develop student knowledge of work ethics, employment demands, responsibility and opportunities.
- ✓ To build confidence in the students.

- ✓ This program is aimed at producing students who are able to meet the changing needs of the community. At the end of this internship program each student is expected to submit a report to Busitema University for evaluation.

### **1.3. Background of MAAIF.**

The Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) is a cabinet-level Ministry of the Government of Uganda. The mandate of the Ministry is to "formulate, review and implement national policies, plans, strategies, regulations and standards and enforce laws, regulations and standards along the value chain of crops, livestock and fisheries". The ministry is also responsible for the "enhancement of crop production and productivity, in a sustainable and environmentally safe manner, for improved food and nutrition security, employment, widened export base and improved incomes of the farmers".

### **1.4. MAAIF Leadership.**

The Ministry is headed by a Cabinet Minister appointed by the President. **Frank Tumwebaze** is the Minister of Agriculture, Animal Industry and Fisheries. He is charged to provide political leaderships.

### **1.5. Location.**

The headquarters of MAAIF are Located at Berkely Lane in the city of Entebbe on the shores of Lake Victoria. The coordinates of the Ministry Headquarters are 0°03'27.0"N, 32°28'36.0"E (Latitude: 0.057500; Longitude: 32.476667). Plot 16– 18 Lugard Avenue, P.O.BOX, 102.Entebbe (U).

### **1.6. Basic Contacts.**

Tel +256 (0) 414320004

Email: Info @ agriculture.go.ug.

Website: www.agriculture.go.ug

### **1.7. MAAIF Directorates.**

- ✓ Directorate of Animal Resource.
- ✓ Directorate of Crop Resource.
- ✓ Directorate of Fisheries Resource.
- ✓ Directorate of agricultural Extension Services.

### **1.8. MAAIF Agencies.**

~~In the execution of its mandate, the Ministry collaborates closely with the following semi-autonomous Government agencies:~~

- ✓ National Agricultural Advisory Services.
- ✓ National Agricultural Research Organization.
- ✓ National Animal Genetic Resource Center & Data Bank.
- ✓ Co-ordinating Office for Control of Trypanosomiasis in Uganda.
- ✓ Dairy Development Authority.

- ✓ Uganda Coffee Development Authority
- ✓ Cotton Development Organization.

### **1.9. MAAIF Departments.**

The Ministry is organized into the following Departments;

- ✓ Agricultural Planning
- ✓ Animal Production & Marketing
- ✓ Entomology
- ✓ Crop Production & Marketing
- ✓ Crop Inspection and Certification
- ✓ Crop Protection
- ✓ Farm Development
- ✓ Finance & Administration
- ✓ Fisheries Resources and Development
- ✓ Fisheries Regulation Control and Quality Assurance
- ✓ Aquaculture Management and Development.
- ✓ Livestock Health & Entomology

### **1.10. Role of MAAIF. (Mandate and Functions)**

It is the overseer of Agricultural sector.

It Formulates, reviews and implements National policies, plans, strategies, regulations and standards along the value chain of crops, livestock and fisheries.

### **1.11. Aim of MAAIF.**

Enhancing crop production, improving food and nutrition, security, widening export base and improve income of the farmer.

### **1.12. Vision of MAAIF.**

The Ministry is guided by the vision of being a competitive, profitable and sustainable Agricultural sector.

### **1.13. Mission of MAAIF.**

Transforming Subsistence farming to Commercial Agriculture.

### **1.14. Objective of MAAIF.**

To support sustainable, Market oriented Fish production, Management, Development, Control quality and Safety of Fisheries products for improved Food security and House hold income.

### **1.15. Directorate of Crop Resource.**

Crop protection department (CPD) is allocated under the Directorate of Crop Resource and its **objective** is to Support market-oriented Crop production, Pest and disease control, Quality and safety of plants and plant products for improved Food security and House hold income.

**The Departments under Crop Resource Directorate are;**

### 1.15.0. Crop Inspection:

Is responsible for Phytosanitary Quarantine Services (PQS), National Seed Certification (NSC) and Agro-chemical Control Division.

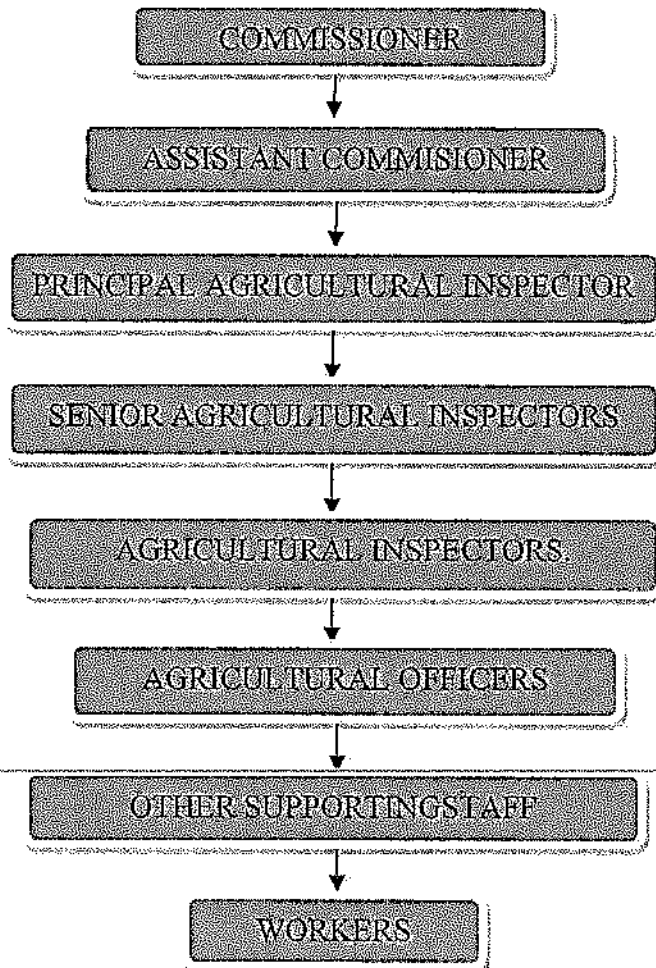
### 1.15.1. Crop Production: Is mandated to promote and guide;

- ✓ Sustainable Market oriented production.
- ✓ Value addition.
- ✓ Quality Assurance and Capacity building.
- ✓ Food and Nutrition security.

### 1.15.2. Crop Protection:

Is responsible for Sustainable Crop Pest and Disease control for improved Food security and House hold incomes in Uganda and is headed by **Mr. Byantwale Tibeijuka Stephen** who is the current Commissioner at the Department.

### 1.16. Organization Structure of Crop Protection Department, MAAIF.



## CHAPTER TWO.

### 2.0. Description of the attachment.

I was attached to the Department of Crop Protection during Industrial Training. I had an intervention with the Commissioner: Mr. Byantwale Tibeijuka Stephen who welcomed me to the Department and allocated me to the Assistant commissioner; Mrs. Tumuboine Ephrance who finally allocated me a Field Supervisor: Mr. Kutunga David (Principal Agricultural Inspector). This was followed by Orientation conducted by a staff Mr. Ogwang James Mark Okello who first introduced me to the Staff members and co-workers and later was showed me the different sections in the Department.

### 2.0.1 Task description

#### 2.1. Office Management

Office management is the process of planning, organizing, staffing, directing and controlling the administrative functions of an office in order to achieve the objectives of the organization. It is the process of utilizing the office resources efficiently to obtain the best result with less effort and cost. It helps in receiving, recording and processing, supplying and retaining information. It is the branch of management which deals with performance of these functions.

#### 2.1.0. Elements of office management

- ✓ **Personnel:** An office provides wages, salaries to their employees. They also keep records of workers attendance, leave due, provident fund, and calculation of overtime. They also help to maintain the relationship between management and workers.
- ✓ **Means:** They are the tools which help to perform different activities efficiently. The means are material, methods, money and machines. They are vital for office works.
- ✓ **Environment:** Office should perform efficient and effective work for the good and effective management interior design, lighting, ventilation and cleanliness should be maintained. The location, government policy, customer should be managed. There must be proper working environment.
- ✓ **Purpose:** It helps to provide guideline and direction to office activities. It helps in planning, organizing, staffing, directing, controlling, staffing and other office work etc.

#### 2.1.1. Importance of office management

- ✓ **Achievement of goals:** Office management helps in increases office efficiency, smooth flow of work, maintaining public relations, minimization of cost, managing change and accepting the new challenges which help in achievement of goals of the organization.

- ✓ **Increases office efficiency:** Office management focuses on office activities and helps office in an economic way.
- ✓ **Smooth flow of work:** Office management helps in performing efficient and effective office work. It helps in proper planning and effective control in office.
- ✓ **Public relations:** The main purpose of public relation is to make the organization look trust worthy to all people who deal with it in all its action. It helps in increasing the goodwill of the organization.

## 2.2. Agroforestry and FMNR

### 2.2.1. Advantages of Agro forestry

- ✓ Diversified benefits that is to say a farmer has income accruing from various sources and any loss in one area can be compensated by another enterprise
- ✓ Good air in that trees provide good air for the farmers and animals on his farm
- ✓ Increased soil fertility especially in practices like the protein banks and also from manure of the animals. ETC

### 2.2.2. Disadvantages of Agro forestry

- ✓ Poor species matching may lead to negative interactions e.g., Myule and crops and mangoes and other crops
- ✓ Trees may habit pests that affect the crops thereby affecting the farmer's returns
- ✓ To some extent, it requires a larger piece of land for a farmer to be organized.ETC

### 2.2.3. Application of FMNR model in Agro forestry:

FMNR stands for Farmer Managed Natural Regeneration. The two phrases in the definition are explained below;

- ✓ **Natural Regeneration;** Is the regeneration of trees from living tree stumps, tree roots and seeds in the fields, grazing lands and degraded forests to be re-vegetated. The emphasis is on natural regeneration rather than on tree planting with the use of tree seedlings raised in tree nurseries.
- ✓ **Farmer Managed:** The emphasis is on farmers or communities managing the regeneration rather than prescriptive and project directed regeneration. It is the farmers who decide what species to protect, when and how to prune, how to share the proceeds, what to do about infringements on agreed rules, the respective roles and benefits to women, men vulnerable groups etc.



#### **2.2.4. Benefits of FMNR**

Here we talked about the challenges that model helps to address like food security in that the farmer is assured of something even in the dry season, soil fertility improvement by the pruned material and leaves from trees, nutritional improvement in that a farmer has a variety of items growing on his farm including fruit trees, overcoming the cost of raising tree seedlings in that a farmer uses existing tree stumps on his farm. Most of these benefits are the same as those highlighted above on Agro forestry in general.

#### **2.2.5. Species to consider for FMNR**

- ✓ Tree species having the ability to re-sprout after cutting which is applicable to most of the indigenous tree species.
- ✓ The value local people place on the species for example is it timber production, firewood production, fruits/food, shade, animal feeds etc.

#### **2.2.6. Dos and Don'ts in tree pruning**

Simple rules of pruning were to be considered which included;

- Always use sharp implements
- Always cut upwards carefully to avoid bruising and stripping of the bark
- Not to prune too high because stems may easily be broken by livestock or even strong winds.

### **2.3. Nursery Bed Establishment and Management:**

#### **2.3.1. Seed Bed;**

We defined a seed bed as a place where seeds are sown to raise seedlings which are then pricked and established in a nursery bed.

#### **2.3.2. Nursery Bed;**

A nursery bed was defined as a place where seedlings which are pricked or sown directly are raised and managed before being transferred to the main field.

#### **2.3.3. Factors to consider before selecting a site for Nursery:**

- ✓ Accessibility
- ✓ Availability of water supply
- ✓ Gentle gradient or sloping land
- ✓ Soil texture and structure

- ✓ Security of the site etc.

#### **2.3.4. How to care for seedlings in a nursery Bed:**

These were the considerations for raising good seedlings in a Nursery;

- ✓ Ensure adequate watering of the seedlings
- ✓ Sufficient light penetration through the seedlings to enable good and strong growth
- ✓ Sufficient space for each seedling to get enough air supply
- ✓ Ensure the nursery is free from pests like termites and moles that may destroy the seedlings

#### **2.3.5. Crop management**

This involved the Agronomic practices of the various types of crops specifically horticultural crops through kitchen gardening farming practices.

#### **2.3.6. Tomato management**

The different varieties include, money maker, Bonny Best, Marglobe, Rio Grande, Tengeru 97, Amateur Rodade, Heinz, New fortune maker F1, kilele F1.

#### **2.3.7. Management practices**

##### **2.3.7.0. Land clearing**

- ✓ Open up land meant for setting the beds by digging.
- ✓ Make square raised beds by heaping up soil
- ✓ Gather dry grass and lay it on top of the beds, then light them up to burn.
- ✓ The burning is aimed at killing the soil pests/ disinfects the soil

##### **2.3.7.1. Preparing the nursery bed**

- ✓ Use a raised bed for nursery 60cm wide and 30cm high
- ✓ Protect the seed from high temperatures by mulching
- ✓ Seeds should be planted at a depth of 1-2 cm
- ✓ Seed emergency, 7-14 days
- ✓ Seedling ready for transplanting when they are 7-9cm in height and with 4-5 leaf stage

### 2.3.7.2. Planting

- ✓ At 3 to 4 weeks transplant the tomatoes to the main field.
- ✓ Be sure to spray fungicide and pesticide as you transfer your seedlings
- ✓ Alternate planting system
- ✓ 2 rows per bed, rows are separated 80cm by 60 cm between plants

### 2.3.7.3. Staking

- ✓ Is the provision of extra support to the plant to keep the fruit and foliage off the ground
- ✓ Staking can increase fruit yield and size, reduce fruit rot, and ease spraying and harvesting
- ✓ It is done two weeks after transplanting

### 2.3.7.4. Irrigation

- ✓ Insufficient water at any growth stage will reduce yield and fruit quality
- ✓ Tomato is most sensitive to water deficit during flowering, somewhat sensitive immediately after transplanting and during fruit development and least sensitive during vegetative growth.
- ✓ Wilting in the late morning indicates that the field should be irrigated

### 2.3.7.5. Harvest/ storage

- ✓ The perfect tomato for picking will be firm and very red in color, regardless of size, with perhaps some yellow remaining around the stem. A ripe tomato will be only slightly soft
- ✓ Never refrigerate fresh tomatoes. Doing so spoils the flavor and texture that make up that garden tomato taste.
- ✓ Never place tomatoes on a sunny window sill to ripen, they may rot before they are ripe

## 2.3.8. Tomato diseases

### 2.3.8.0. Early blight (*Alternaria solani*)

#### Symptoms

- ✓ There small black or brown spots on leaves and stems

#### Control

- ✓ Plant residue should be removed from the field and destroyed after harvest
- ✓ Spray with Mancozeb (Dithane M-45)

### 2.3.8.1. Late blight (*Phytophthora infestans*)

#### Symptoms

- ✓ It appears as small, water-soaked areas that rapidly enlarge to form purple-brown, oily appearing blotches.

#### Control

- ✓ Remove and destroy blighted tomato or potato plants
- ✓ Eliminate all tomato or potato cull piles in the vicinity of the tomato field
- ✓ Reduce leaf wetness by staking tomatoes and using drip irrigation
- ✓ Spray using Mancozeb (Dithane 45)
- ✓ Cultivation of resistant varieties

### 2.3.8.2. Fusarium wilt (*Fusarium oxysporum fsp lycopersici*)

#### Symptoms

- ✓ It begins on outer leaf lets and drooping of leaf petioles
- ✓ Leaves become wilt, turn yellow and die. The entire plant may be killed before plant reaches maturity.

#### Control

- ✓ Avoid intercropping with any Solanaceae family crop, rotate with cereals and grasses
- ✓ If possible, use clean equipment to avoid infesting new fields to prevent the introduction of infested soil into the production field through contaminated tools, hands, clothing or shoes of farm workers
- ✓ Spray using copper oxychloride

### 2.3.9. Tomato pests

#### 2.3.9.0. Tomato fruit worm

#### Symptoms

- ✓ Larva colour is pale yellow to red, to green, to brown
- ✓ They prefer to feed on green fruits and usually do not enter ripe fruit
- ✓ Deep watery cavities frequently in the stem end of the fruit

### **Control**

- ✓ Remove and destroy affected plants at the end of the season
- ✓ Till the soil after harvest to destroy pupae
- ✓ Use insecticides

#### **2.3.9.1. Cutworms, *Agrotis sp***

##### **Symptoms**

- ✓ It gives damages to field in two stages, larva stages, when they feed on foliage and fruit

##### **Control**

- ✓ Use insecticides

#### **2.3.9.2. Spider mites**

##### **Symptoms**

- ✓ Usually, spiders are on the lower surface of the leaf
- ✓ They insert their stylet mouth parts in the individual plant cells and withdrawing cellular contents

##### **Control**

- ✓ Through spray coverage and timely follow up treatment

#### **2.4. Mobilization**

To organize or prepare something, such as a group of people, for a purpose:

Community mobilization is a process through which action is stimulated by a community itself, or by others, that is planned, carried out, and evaluated by a community's individuals, groups, and organizations on a participatory and sustained basis to improve the health, hygiene and education levels so as to enhance the overall standard of living in the community

##### **2.4.0. Benefits of mobilization**

- ✓ Expands the base of community support for the organization
- ✓ Brings new volunteers who otherwise might not get involved in your organization
- ✓ Deepens the analysis of transformation and provides an opportunity for the organization and individuals to evolve ETC

#### **2.4.1. Sensitization.**

Attempt to make one self or others aware of and responsive to certain ideas, events, situations, or phenomenon.

This was carried out on various occasions most especially among the youth to find out the factors hindering youth involvement in agriculture and the strategies government can employ to encourage youth get involved in agriculture projects.

#### **2.5. Awareness Materials.**

These are materials used to convey public health messaging in order to support the overarching behavior change strategy developed to respond to a public problem.

The awareness materials I got involved in making were;

- ✓ Posters
- ✓ Fact sheets
- ✓ Brochures
- ✓ Banners

#### **2.5.0. Intentions of making the awareness materials.**

- ✓ Getting message out to the public.
- ✓ Raising awareness about an event.
- ✓ Informing the public about a community issue and help communicate with the community members.
- ✓ Capture moving audience with a message and attract the reader's attention.

#### **2.6. Rabbit Production.**

Rabbits are also known as Bunnies. They are small mammals in the family Leporidae of order Lagomorphs.

The activities done under rabbit production were;

- ✓ Cleaning the hatch
- ✓ Bathing the rabbits
- ✓ Treating the rabbits
- ✓ Feeding and watering them
- ✓ Sexing them (identifying the sex)

### **2.6.0. Importance of rearing Rabbits.**

- ✓ For meat production. (Rabbit meat is known for delicate flavor and important source of proteins)
- ✓ For fur (Rabbit fur is of high quality having extensive application in textile industry).
- ✓ Rabbits are also reared as pets.

### **2.7. Departmental Meetings.**

A meeting is where a group of people come together to discuss issues to improve communication, to promote coordination or to deal with any matters that are put on the agenda and to help get any jobs done.

#### **2.7.0. Significance of conducting meetings.**

- ✓ Keeps everyone informed.
- ✓ Problem solving
- ✓ Promotes leadership
- ✓ Opportunity for performance feed back.
- ✓ Room for innovation
- ✓ Bonding and celebration.

### **2.8. Inspection**

Means an on – site determination of relevant characteristics of the area involved in or affected by the proposed or permitted project.

#### **2.8.0. Aims of carrying out Inspection.**

- ✓ Helps management in making key decisions and control costs and protect the company.
- ✓ Prevents accidents and provides evidence of due diligence for liability protection.

### **2.9. Expositions and Exhibitions.**

**Expositions;** They are also called trade fares; they can be small- or large-scale events in which business and companies in a specific niche come together to show case their services and products or promote new business developments.

**Exhibition;** In the most general sense, is an organized presentation and display of a selection of items.

## **2.9.0. Importance of Expositions and Exhibitions.**

- ✓ Provides room to survey the available opportunities and new market trends.
- ✓ Demonstrates the displays of significant events of goods and services offering research, and guidance of products in the markets.
- ✓ Have a transformative power in shaping perceptions of nations and cultures, increasing awareness of the host country and international participants by helping to shape and enhance a nation's image and reputation.
- ✓ It is a tool used to create awareness, enhances reputation as well as to sell products.
- ✓ Provide an excellent opportunity to access opinions from clients and determine market potentials, conduct research and evaluate competition, develop commercial structures by identifying new agents and distributors, and initiating joint ventures and project partnerships.

## **2.9.1. Importance of Expositions and Exhibitions to students.**

- ✓ They are typically designed to encourage students think critically, solve challenging problems, and develop skills such as oral communications, public speaking, research, team work, planning, self-efficiency, goal setting or technological and online literacy.
- ✓ Exhibitions improve the creativity idea of a student and allow them to think beyond text books.
- ✓ They also enable them to get courage of face-to-face interactions.

## **2.10. Data Entry.**

Is a type of clerical work that involves using various processes like typing and voice recording for entering and inputting data or information into a computer using devices such as key board, scanner, disk and voice to form other non-electronic forms of data for processing and management.

### **2.10.0. Significance of Data Entry**

- ✓ Helps companies in reducing the cost of operations by reducing the infrastructure expenses.
- ✓ Ensures confidentiality, which is a plus point in company matters.
- ✓ Helps in keeping/storing accurate data and avoiding mistakes that people do.
- ✓ Data entry keeps relevant information related to the field work in one place and in correct order for reference. When all the data is in accurate sequence and order, it makes it easy to rearrange and duplicate data.



## **2.11. Project Concept Note.**

Is a brief outline of the project you have in mind. A simple version of it will include an introduction, a background, proposed objectives and the goal, results and a budget overview.

- ✓ Is perhaps the shortest expression of your project idea given on paper to a Donor.
- ✓ Is a brief or an excerpt of your research paper that depicts your studies key features and explains the research project.

### **2.11.0. What should be the size?**

This actually depends upon the donor requesting the concept note. However, we need to remember that it is the shortest possible text for our project idea. So, the shorter the better. Most donor agencies request a minimum of one page to a maximum of three pages. Ideally it should not be more than 2-3 pages unless the donor agency has specific requirements.

### **2.11.1. Purpose of writing a Concept Note.**

- ✓ To help applicants develop more competitive proposals and to save time by eliminating proposals that are not likely to be funded.
- ✓ Convince the supervisor that the proposed research project is worth doing.

## **2.12. Ethical Code of Conduct for Agricultural Extension and Advisory Service Providers.**

### **2.12.0. Definitions and interpretations of key terms.**

- ✓ **Ethical code of conduct.**

Ethics refers to the accepted morals, values and principles of right conduct for a profession or area of service. This ethical code of conduct is a set of rules or behavior expected of an Agricultural Extension and Advisory Service (AEAS) provider in Uganda.

- ✓ **Professionalism.**

Professionalism is the art of provision of services as a professional. A professional is expected to have completed a relevant training to enable them provide specialized services, be engaged in continuing education/self-improvement, work in the interest of the public, be able to exercise prudent judgment, be licensed and regulated by the state and or professional body and accepted by the public as such.

### **2.12.1. Background of the Ethical Code of Conduct.**

Access to the quality extension and advisory services is a critical ingredient to technology uptake by farmers and other stake holders. In order to ensure professionalism and quality services, the government expects all

extension and advisory service providers in the public and private sector to adhere to this code of ethics endorsed through an extensive multi-stake holder consultative process.

The objective of this code of ethics is to clarify core values, promote good practices and guide professional conduct of AEAS providers, for the benefit of society. Failure to uphold this code could lead to disciplinary action.

#### **2.12.2. Why the Ethical Code?**

Although Uganda has a generic code of conduct for the public service, there are ethical issues specific to the AEAS due to their unique attributes and current pluralistic nature involving multiple actors in the public service and other professionally accepted codes of ethics of relevant disciplines. The code will foster integrity, a good public image, confidence and trust in the AEAS.

#### **2.12.3. Target users of the code.**

The target users of the ethical code include individuals and organizations offering Agricultural Extension and Advisory Services (AEAS) to farmers and other actors in agricultural value chains in Uganda. The services include the training and other capacity development services, Business development services, Technology dissemination, and advice on crops, Agri-business, Livestock production, fisheries, forestry and related areas. Examples of targeted actors are local government agricultural extension staff, training and research institutions, professional bodies, associations, NGOS and other civil society organizations; the media (print and electronic); private extension providers, farmer trainees/ community-based facilitators.

#### **2.12.4. Value under pinning professional conduct for AEAS providers.**

The ethical code of conduct in AEAS is linked to the values upheld which are; integrity, respect, diversity and inclusion, collaboration and partnership, gender and cultural sensitivity, accountability and transparency, farmer centeredness, innovativeness, knowledge and skills for enhancement of human welfare. These values form the frame work for the code and are all of equal importance.

##### **2.12.4.0. Integrity.**

Integrity means consistently acting according to values and principles, and being personally accountable and responsible for own actions and omissions in practice.

##### **2.12.4.1. Respect.**

Respect means behaving towards peers and clients in a manner that values their worth, dignity and uniqueness.

##### **2.12.4.2. Diversity and Inclusion.**

Diversity refers to acceptance and respect for individual differences and uniqueness including values and beliefs, culture, ethnicity, language, ability, experiences and social economic status.

Inclusion refers to deliberate actions to appreciate, acknowledge and address individual differences.

#### **2.12.4.3. Collaborations and Partnerships.**

Collaboration means working with others to achieve results. Partnerships are deliberate actions to form alliances between two or more organizations or individuals.

#### **2.12.4.4. Cultural and Gender sensitivity.**

Culture refers to the beliefs and practices common to any particular group of people. It includes the understandings, patterns of behavior, practices and values shared by a group of people.

Gender refers to the culturally determined social attributes and opportunities associated with being male or female and the relationships between women and men and girls and boys.

Gender sensitivity refers to the ability to recognize and address the different problems and needs of men and women arising from their culturally determined role, and responsibilities, power relations and access to and control over resources.

#### **2.12.4.5. Accountability and Transparency.**

Accountability refers to being answerable for own decisions and actions. Transparency refers to openness, free sharing or communication without hidden agendas.

#### **2.12.4.6. Farmer Centeredness.**

Farmer centeredness refers to a situation where all actions or initiatives are focused to benefit the farmer.

#### **2.12.4.7. Innovativeness, Knowledge and Skills for Enhancement of Human welfare.**

Innovativeness refers to changing processes or creating more effective processes, products or ideas. Knowledge is defined as what is learned, understood or aware of. Skill refers to the ability and capacity acquired through experience and aptitude to carry out activities or job functions.

#### **2.12.4.8. Professional Responsibility and Sustainability of Agricultural Extension and Advisory Services.**

Professional responsibility implies to act in a trust worthy, reputable and accountable manner towards farmers, colleagues, partners, local authorities, and the community in which the services are provided. Sustainability of Agricultural Extension and Advisory Services refers to ensuring continuity of provision of agricultural services, and adopting an appropriate approach to resolving ethical dilemmas.

#### **2.12.5. Rewards, Sanctions and Conflict resolution.**

- ✓ **Rewards;** An appropriate reward and recognition shall be accorded for good ethical conduct. The rewards shall include; but not limited to; word of recognition of good conduct, open appraisal, letter of commendation, presents, certificate of merit, award of medals.

- ✓ **Sanctions;** Unethical conduct of the AEAS providers shall not be accepted. Violation of this code of conduct shall constitute professional misconduct leading to either a warning or withdrawal of certificate of practice. This will be done by the rewards and sanctions committee.
- ✓ **Conflict resolution;** Any dispute arising out of the violation of the code of conduct, which cannot be amicably settled or corrected by the concerned, shall be referred to adjudication/arbitration in accordance with the laws of Uganda.

## **2.13. Plant Wise Diagnostic Field Guide.**

### **12.13.0. Field diagnosis. (A process of elimination).**

The process of diagnosing a plant health problem without any specialized laboratory equipment is called field diagnosis. This is the situation at a plant clinic and when making a farm visit.

Field diagnosis involves careful observation of the symptoms on a plant and linking those symptoms with possible causes. While some plant health problems are relatively easy to diagnose, others can be very difficult for a number of reasons. For instance, there may be multiple factors that cause similar symptoms and as a result it will often not be possible to make a highly specific field diagnosis, such as giving the name of a nutrient that is deficient or the pest species causing the problem.

The first step in narrowing down the cause of a plant health problem is to determine if the symptoms are caused by a living organism (biotic) or by a non-living factor (abiotic). Once the cause of the crop problem has been narrowed down to either biotic or abiotic factor, it will usually be possible to take the diagnosis to the next level of detail. For biotic causes this would mean identifying the pest group (virus, weed, mite, etc.) and for a biotic cause, this would mean determining whether the problem is associated with water, nutrients, temperature or some other environmental factor.

Remember to **ALWAYS** eliminate all the alternative causes before pronouncing your final diagnosis. Don't be in too much of a hurry. It is better to tell a farmer that you are unfamiliar with the problem presented than to make a complete guess at the diagnosis (although be sure to tell them as much as you do know e.g., what is **NOT** causing the problem).

### **2.14. Field Visits.**

Extension workers often have a limited amount of information available to them, especially if a farmer brought the plant sample to the extensionist. They may have collected the wrong part of the plant or the sample may have deteriorated in transit. It may be necessary to visit the field to see fresh symptoms and to gain other information on the pest. If you intend to send a sample to a colleague or a forms diagnostic support service, it is usually a good idea to visit the field yourself and to select a fresh sample of your own.

The following is a summary of what to do when visiting a field to observe the symptoms in the context of the entire crop. (All of the information gathered would be of interest to a diagnostic support service if a sample were to be sent.

#### **2.14.0. Step 1. Get in close.**

- ✓ What parts are affected?
- ✓ Describe symptoms using the correct terminology.
- ✓ Observe changes in shape, color and growth.
- ✓ Look for visible signs of insects, fungi or other pests.

#### **2.14.1. Step 2. Look at the whole plant. (Including roots)**

- ✓ Where are the symptoms within the plant?
- ✓ Which growth stages are affected?
- ✓ How do the symptoms progress from early to late stages?
- ✓ How severe is the attack?

#### **2.14.2. Step 3. Examine groups of plants.**

- ✓ Incidence: how many plants are affected?
- ✓ Distribution: random, edge of the plot only, in patches, pattern caused by use of machinery?
- ✓ Remember: consider plant variety, age and how it is grown.

#### **2.14.3. Step 4. Speak to farmers and other local extension workers.**

- ✓ When did the problem appear? Is this the first time?
- ✓ Record local name for the problem.
- ✓ Consider soil type and climate (patterns)
- ✓ Obtain information on the varieties used, recent history of chemical inputs used, etc.

### **2.15. Making Recommendations**

#### **2.15.0. Big 5 key considerations when making a recommendation.**

Once a pest, disease or some other limitation to plant growth and productivity has been diagnosed, various options for control are open to extension workers. Each of these options (including doing nothing) will have consequences, implications and costs for the farmer. When making recommendation to intervene (or not), the following 'big 5' features of the advice should be considered.

When making a recommendation, advisors have to ask themselves if the advice they are providing has all of the following characteristics. If the guidance does not meet all of these criteria, the advice is either

of no use to the farmer or is poor advice. A recommendation must be; Economic, Effective, Safe, Practical and Locally available.

### 2.15.1. Economic.

Generally, the control measures that you recommend to farmers must pay for themselves the increase in yield and /or quality is worth more than the labor and input you suggest. It is important to remember, and to remind farmers, that the presence of a pest does not necessarily require pest management action. Farmers should monitor their problems closely and only invest money and labor when the pest poses significant threat to crop quality or yield.

### 2.15.2. Effective.

Any recommendations made to farmers must be effective, extension workers should only make recommendations that have either been scientifically validated, for example by national agricultural research stations, or that are based on commercially available products which have gone through all necessary registration and testing, or that are based on locally tried and tested farmer practices that have stood the test of time and that extension workers have witnessed and seen beneficial results for themselves.

### 2.15.3. Safe.

Many crop protection products can be poisonous to humans and safety is an important concern. Farmers often take risks with pesticides. Extension staff should discourage unsafe practices and encourage farmers to wear appropriate, clean and relevant protection (and not then change their behavior and take greater risks because they are wearing it).

There are two kinds of poisoning: Acute and Chronic. **Acute poisoning** occurs when an individual is exposed to large single dose of pesticide, such as if a child were to drink some concentrate. You may see immediate and drastic symptoms, or it may take up to 24 hrs for the symptoms to appear. The kind of symptoms associated with organophosphate pesticide poisoning is provided in table 1. Below. If pesticides have been swallowed, wash the victims' mouth with lots of water. The pesticide label should tell you whether or not the victim should drink water to dilute the chemicals, so read the label carefully. Always seek medical advice.

Table 1. Showing symptoms associated with acute organophosphate poisoning (including chlorpyrifos, Malathion and Dimethoate).

Point of exposure	Symptoms
Inhalation	✓ Chest tightness and wheezing ✓ Coughing

	<ul style="list-style-type: none"> <li>✓ Frothy sputum (foaming at the mouth)</li> </ul>
Skin	<ul style="list-style-type: none"> <li>✓ Localized sweating</li> <li>✓ Muscle twitching</li> </ul>
Ingestion	<ul style="list-style-type: none"> <li>✓ Increased salivation</li> <li>✓ Nausea and vomiting</li> <li>✓ Diarrhea (often watery)</li> <li>✓ Cramping abdominal pains</li> <li>✓ Involuntary defecation</li> </ul>
Eyes	<ul style="list-style-type: none"> <li>✓ Constricted pupils</li> <li>✓ Pain</li> <li>✓ Excess tears</li> <li>✓ Blurred vision</li> </ul>

**Chronic poisoning** is the result of repeated exposure to the harmful chemicals at low levels over a long period of time, often due to absorption through the skin, inhalation of spray or dust as well as contamination of the mouth. This is most common among farmers who use pesticides regularly. Symptoms can include nervousness, slowed reflexes, irritability, and an overall decrease in health as well as arthritis.

#### 2.15.4. Practical.

The practicality of the recommendation should be considered when providing advice. There are plenty of effective and safe methods of control which are entirely impractical for many farmers. This may be because they are too time consuming or require use of specialist equipment. For example, hand picking caterpillars from a field of kale could be effective but would be totally impractical except for a very small area.

#### 2.15.5. Locally available.

If a product is not available to the farmers, then there is little point in making the recommendation. This may involve equipment as well as fertilize, seed and biological control agents as well as pesticides.

#### 2.16. Integrated Pest Management (IPM)

Plant doctors are trained to offer sustainable plant health management advice to farmers following the principles of IPM. IPM involves the use of cultural, biological and mechanical methods, alongside targeted interventions with fertilizers and pesticides when justified defines IPM as the careful consideration of all available pest control techniques and subsequent integration of appropriate measures that discourage the

development of pest populations and keep pesticides and other interventions to levels that are economically justified and reduce or minimize risks to human health and the environment.

#### **2.16.0. Pesticide Resistance Management.**

When pesticides with the same mode of action are used repeatedly against a pest, the pest population may begin to develop resistance. This happens because some of the individual pest organisms may be able to tolerate the pesticide more than others. The more tolerant individuals will be more likely to survive and reproduce. The next generation will therefore consist of a higher proportion of tolerant (or fully resistant) pest individuals, making the pesticides less effective.

Pesticide resistance management is an effort to slow down or prevent the development of resistance, there by prolonging the effective life of pesticides. Therefore, rotating fungicides used will help to prevent the buildup of resistant strains.

#### **2.16.1. Alternative pesticides and home remedies.**

In addition to the synthetically produced pesticides, there are naturally produced chemicals, usually extracted from plant tissue. Some common examples of so-called 'botanical insecticides' or 'botanicals' include extracts of neem (which is now widely used and sold in commercial forms), chili and garlic. Commercially available botanicals must be nationally registered for use as a pesticide in order to be included in pest management recommendations. However, these products are often locally produced by the farmers themselves. The quality and effectiveness can be highly variable due to the different methods of production and the unpredictable concentrations of the active ingredients in the plant material used. Hence, the correct dosage is difficult to establish.

Other ingredients, such as soap (applied as soapy water) or wood ash are used for pest management as they are cheap and readily available. Some can be effective, but some are not. However, some of these materials can also be toxic to the plants, so these factors should be considered before recommending their use.

#### **2.17. Invasive Alien Species**

##### **✓ An alien plant.**

Is an exotic, non-native, non- indigenous or foreign plant species that has been introduced by people, either intentionally or un intentionally, outside its natural range and outside of its natural dispersal potential.

##### **✓ An invasive alien plant.**

Is a species of plant that is both alien, as described above, and destructive to the environment in which it grows. As such, invasive plants can have negative impacts on biodiversity and or livelihoods.



✓ **A naturalized plant.**

Is an alien plant that has established self-perpetuating populations without any human intervention, but which is not yet considered to be invasive, in terms of being either wide-spread and or abundant or destructive in the areas where it is found.

✓ **A weed.**

Is a plant that is out of place and which has not been sown intentionally, or it is a plant growing where it is not wanted. Weeds have a negative impact on crop or pasture production, human or animal health, or other aspects of economic activity and development, and may be either native or introduced.

**2.17.1. Management of invasive alien plants.**

In order to be effective, all invasive alien plant management strategies need to consider activities related to;

- ✓ Prevention
- ✓ Early detection and rapid response (EDRR)
- ✓ And control.

75



Op

## CHAPTER THREE.

### 3.0. Impact Of The Attachment

#### 3.1. Social conditions and Work climate.

MAAIF is in very good location i.e. easily accessible by people and it also provides a very good working environment. The workers in the various sections at Ministry are very approachable and are always ready to guide students when need arises. The tight security, fine climate, practical learning experience and care make MAAIF an ideal place for any BUAC student to do industrial training. The climate was also quite favorable though there was some harsh condition which affected implementation of the activities planned.

#### 3.2. Mentoring condition.

It is dictated by the experience I gained during the time of internship. In fact, it was good as I engaged myself fully in the activities.

#### 3.3. Skills and Qualifications gained during the internship period.

Though the time spent at MAAIF was relatively short, during the industrial training I was able to gain a lot from it. A number of practical skills and Qualifications were achieved thus mentoring was done in various areas thus imparting several professional skills to my life as shown below:

- ✓ Skills in building interpersonal relationship with the staff at the offices and other people at the sub county, as well as the farmers, making awareness material i.e. posters, fact sheets, brochure etc.
- ✓ Communication skills and confidence in training farmers on animal and crop management, practical skills and knowledge especially in writing official letters requesting for support.
- ✓ I also acquired skills in vaccinating and treating rabbits using the different types of drugs and also mobilization skills relevant in sensitization programs.
- ✓ I learnt how to respond to technical questions of the community and farmers and acquired office management skills relevant in the day to day running of the office.
- ✓ I learnt how to transplant and the management practices of straw berries and also acquired knowledge about how to develop activity memos for implementation.
- ✓ I was able to acquire new knowledge and experience in using different sector equipment's like computers, printers, and photocopiers which are in the organization and found out how to prepare work plans and budgets for extension field trainings.
- ✓ I discovered how to document Field data and unearthed how to draft loose minutes for requesting funds.

### **3.4. Experiences unearthed from the internship placement:**

- ✓ I learnt that team work is very important at work places and that for effective work to be done there is need for good planning, full cooperation and team work especially during activities like mobilization of farmers.
- ✓ I also learnt how to deal with different categories of people differently regardless of their ages, education background, and economic status interacting with potential employers.
- ✓ I was able to learn, acquire new knowledge and experience in using different sector equipment's like, computers, printers, and photocopier which are in the organization and that consultations in work places are very important before making or implementing any form of action.
- ✓ I learnt that professionalism is an important aspect of life especially at work and that time management is very important at work places and in daily life.

### **3.5. Challenges faced by the student during the field work.**

Several challenges were faced during this industrial training period among which were seen and recorded. This hindered the smooth running of the activities in one way or the other. The challenges included:

- ✓ I lacked financial support from the Organization since they were not offering any allowances to intern students.
- ✓ I also faced a challenge in writing this report which needed money for typesetting, printing and binding since the little I had got used up in facilitating myself while in the field.
- ✓ Facilitation in the field was also another challenge that I faced since the organization doesn't cater for the internees' accommodations and feeding thus affected my welfare as I had to spend the little I have for facilitating myself.
- ✓ I had a challenge of accessing information on MAAIF since I was referred to the internet for the relevant Data; something that made compiling of the report a bit difficult since the Area office didn't have such information.

### **3.6. How the challenges were managed.**

- ✓ I also saved some money for my welfare of which helped me compile and make the report.
- ✓ I adjusted and appreciated the department working programs and working culture, by closely working along with the experienced staff such as staff CPD; MAAIF who were able to provide me with relevant literature about MAAIF.

### 3.7. Other Exertions conducted during the training.

- ✓ Attended a workshop intended to teach/ focus on how to make recommendations after diagnosing a pest/ disease.
- ✓ Reflected on knowledge of biology of pests.
- ✓ Held seminar on the Ethical code of conduct for Agricultural Extension and Advisory Service providers.
- ✓ Attended training on Integrated Pest Management.
- ✓ Drafted a letter by the Mon. Minister of Agriculture informing the Desert Locust Control Organisation for East Africa (DLCO-EA) requesting for support in control operations of the African Armyworm (*Frugiperda exempta*). The letter was addressed to the Executive Director of the Organisation.
- ✓ Wrote a public statement from MAAIF on the outbreak of Ape fly in Uganda.ETC

### 3.8. Influence of the attachment activities on future carrier plans

The training gave a lot of motivation and several skills to continue focusing on my career, and I am endowed that the skills and knowledge acquired will help me to exhibit the highest level of competence. These will surely prepare me for future opportunities because they are the same practices done in other farms all over the country.

### 3.9. Correlation of attachment activities with classroom knowledge

It is with no doubt that there was a positive correlation between the classroom knowledge imparted by lecturers with the activities that were done during industrial training at MAAIF. The activities tested how best one could recall and apply knowledge and skill acquired from the classroom in most course modules like; Extension Education, Weeds and Invasive Alien species, Crop protection, Life skills among others. They made the classroom knowledge more complete, backed up by the relevant practical aspects of livestock, crop husbandry and life skills that were all covered.

07

## CHAPTER FOUR.

### 4.0. Conclusion

Industrial training as a program is a very important activity that all students in institutions of higher learning must undergo because it prepares them to face the working world after university/graduation. Generally, the internship was a success despite the fact that it had a few challenges. The activities that are being carried out by the MAAIF Crop Protection Department enabled me to participate in addressing the aspects of agricultural management practices through the knowledge employed when handling the different tasks during the field work especially when it came to carrying out Demonstrations as there was chance for me to have hands on at every sensitization program and During the program, I managed to learn many things and acquired a multitude of skills in the little time I was there. I know I will never regret having gone to MAAIF for my industrial training.

The internship was carried out successfully and I was able to gain a lot from it. I was in position of getting practical skills and knowledge in line with my career and relating with people in the field. The technical advice that I provided addressed farmers' problems and needs. Much as all were successful, there were also some little challenges which hindered the smooth running of the activities.

In conclusion therefore the department's activities and tasks that I got involved in during internship were real and applied to the daily life of farmers.

### 4.1. Recommendations. (TO: MAAIF, University and students)

MAAIF should allocate more funds to the facilitation of intern students in terms of allowances and catering for students during field works to enable them get exposed not only to office works but also to the field.

In order for the internship to run on smoothly, the University (BUAC) should establish good relationship with MAAIF organization to which its students get attached, under the various departments it holds for Industrial Training programs.

Students should take this program seriously and ensure that they accomplish all the assignments given to them by the field supervisors so as to get exposed to the working environment that the University grooms them for after study.

35

## APPENDICES.

### Appendix 1. (TABLES)

**Table 2. Indicating Field Diagnosis and Recommendation over view**

DIAGNOSIS	RECOMMENDATION.
<ul style="list-style-type: none"> <li>✓ Carefully examine the specimen and gather as much information as you can from the farmer.</li> <li>✓ Cut the specimen open (where appropriate) and look for internal symptoms, use a hand lens when appropriate.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Remember the big 5 features of a recommendation for managing a plant health problem.</li> <li>✓ Asses the severity of the problem and use your experience to judge whether management is required. This is probable the most difficult aspect of making a recommendation.</li> </ul>
<ul style="list-style-type: none"> <li>✓ Are the symptoms symmetrical on the plant? Is it localized? Does the whole plant appear to be suffering?</li> <li>✓ Consider whether you have enough information or if a field visit is required.</li> <li>✓ Compare the symptoms with photos in this diagnostic field guide and others you may have available: use your own experience.</li> <li>✓ Consider that the plant may be suffering from two or more problems (although some may be of little consequence).</li> <li>✓ Do not guess but provide the farmer with as much information as you can as to the cause of the problem.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Ensure that pest management advice is based on IPM principles, using multiple effective methods and minimizing risks from pesticide use.</li> <li>✓ Make sure you provide advice on how the problem can be prevented or delayed next season.</li> <li>✓ Encourage farmers to alternate between different active ingredients as resistance in insects and fungi is a big problem.</li> <li>✓ Remember to avoid recommending pesticides that appear in the Plant wise Pesticide red list.</li> <li>✓ Make sure that you get feedback from the farmers so that you will learn from their crop management experience and share that experience with your colleagues.</li> </ul>

**Table 3. Showing Examples of different control methods.**

Cultural control	Physical control	Chemical control
<ul style="list-style-type: none"> <li>✓ Grazing</li> <li>✓ Flooding</li> </ul>	<p><b>Manual and mechanical</b></p> <ul style="list-style-type: none"> <li>✓ Uprooting.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Wetters</li> <li>✓ Stickers</li> </ul>
<ul style="list-style-type: none"> <li>✓ Fire.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Hand pulling</li> <li>✓ Slashing or felling</li> <li>✓ Ring barking</li> <li>✓ Strip barking.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Penetrants</li> <li>✓ Carriers</li> <li>✓ Anti-form agents</li> <li>✓ Anti-evaporants</li> </ul>

Table 4. Indicates the Advantages and Disadvantages of Foliar applications and stem applications of herbicides.

	Advantages	Disadvantages
<b>Foliar applications</b>	<ul style="list-style-type: none"> <li>✓ Easy to apply</li> <li>✓ Large areas can be sprayed in a relatively short period of time.</li> <li>✓ Small areas, or even individual plants, can be targeted.</li> <li>✓ Minimal soil disturbance</li> <li>✓ Relatively cheap</li> <li>✓ Not labor intensive.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Cost of spray equipment.</li> <li>✓ Inconsistent or inadequate application rates.</li> <li>✓ Can be undertaken only during growing season of plants.</li> <li>✓ Cannot be applied in windy areas.</li> <li>✓ Potential spray drift may result in off-target damage.</li> <li>✓ Large quantities of clean water are required at a spray site.</li> </ul>
<b>Stem applications.</b>	<ul style="list-style-type: none"> <li>✓ Most procedures are simple and require little preparation or training.</li> <li>✓ The ability to kill large standing trees in locations where felling might damage native vegetation.</li> <li>✓ Minimal disturbance is caused to surrounding vegetation</li> <li>✓ It is less labor intensive</li> <li>✓ It is target specific</li> <li>✓ Can be applied at any time of the year.</li> </ul>	<ul style="list-style-type: none"> <li>✓ The need for some training, in case of certain procedures.</li> <li>✓ Diesel, used as a carrier, can be expensive and is usually more toxic to people than the herbicide itself.</li> <li>✓ Dense infestations may require large quantities of diesel, which may contaminate soil and water.</li> <li>✓ The woody biomass within large trees cannot be utilized to offset control costs.</li> <li>✓ Frill and stem injection techniques can be slow.</li> </ul>

### Biology of Pest.

Knowledge on biology of the pest enables us to consider the options we have in our attempts to control it. The following tables provide very general advice as to the biology of various pests.

The way in which the pest survives in the absence of a susceptible crop plant has great implications in the control of pests.

Table 5. Indicates the means by which various pests survive in absence of crop plants

Pest	Resting stage	Notes
<b>Fungi</b>	Yes (spores)	Fungi often produce two types of spores: one for survival during dormant periods and one for rapid spread under favorable conditions. Necrotrophic fungi and bacteria can survive and continue to grow on crop debris (the biotrophic fungi such as rusts, Powdery mildews and smuts cannot do this).
<b>Water moulds</b>	Yes (spores)	As above, biotrophic water moulds include downy mildews. Necrotrophic ones include <i>Phytophthora spp.</i>
<b>Bacteria</b>	No	Plant pathogenic bacteria do not produce spores. They survive in crop debris or in the soil.
<b>Nematodes</b>	Yes (cysts, eggs)	Adult nematodes cannot survive for long outside the host but cysts and eggs can survive desiccation for many years.
<b>Insects</b>	Yes	There is no dormant stage equivalent to a seed, but most insect species have stages (usually egg or pupa) that will survive for months of adverse conditions without feeding.
<b>Mites</b>	Yes	Some mites can pass periods of adverse conditions without food as eggs or adults. This is particular



		true in temperate regions, but also occurs during the dry season.
<b>Viruses</b>	No	Plant viruses generally cannot survive outside the host plant or vector (i.e. The insect which transmits the virus). They survive in volunteer crop plants, or alternative host plants including some weeds when there is no crop available. The main exception is tobacco mosaic virus, which can remain infective outside a host for years.
<b>Phytoplasmas</b>	No	As for viruses with no known exceptions.
<b>Weeds</b>	Yes (seeds)	Seeds of weeds can lie dormant for many years and can be transferred to new areas as a contaminant of crop seeds.
<b>Parasitic plants</b>	Yes (seeds)	As for weeds.
<b>Mammals</b>		Can survive for days or weeks without food and will often change food source to what is available.
<b>Birds</b>		Highly mobile and can generally find food.

The features of pest transmission (how it moves around) will affect the control options available. Movement of irrigation water, soil and seed as well as vector behavior all influence pest transmission. Some insects are weak fliers but can be carried great distances by the wind. Mites cannot fly but are carried by wind on the fine strands of silk that they spin. Some fungal spores blow in from hundreds of miles around, even from other continents.

Table 6. Shows means by which pests can be moved from one plant or area to another.

Pest	Wind	Water	Soil	Vector	Independent	Mechanical (Tools)	Vegetative planting material	Seed.
Fungi	Yes	Yes	Yes	No	No	Yes	Yes	Yes
Water moulds	Yes	Yes	Yes	No	No	Yes	(No)	(no)
Bacteria	(yes)	Yes	Yes	Yes	No	Yes	Yes	Yes
Nematodes	(No)	Yes	Yes	(no)	(yes)	No	(yes)	(no)
Insects	Yes	No	Yes	-	Yes	-	Yes	No
Mites	Yes	No	No	-	(Yes)	No	Yes	No
Viruses	No	No	No	Yes	No	(Yes)	Yes	(yes)
Phytoplasmas	No	No	No	Yes	No	No	Yes	No
Parasitic plants	Yes	No	Yes	Yes	No	-	No	(Yes)
Weeds	Yes	No	Yes	Yes	No	-	-	(yes)
Mammals	No	No	No	No	Yes	-	-	-
Birds	No	No	No	No	yes			

**NOTES.**

Bracketed responses indicate that the statement is generally true but with a small number of important exceptions. For cases where there is no response possible, a '-' is shown.

Note that the table indicates whether any species within a pest group can be transmitted by means mentioned. It is very rare that all the species within a pest group can spread from plant to plant through the same process. For example, several species of fungi are transmitted through seed but most are not transmitted in this manner.



Table.7. Showing some pests, the damages they cause and their control.

No	Pest	Damages caused	Control strategies.
1	African Armyworm	<ul style="list-style-type: none"> <li>✓ Feeds on leaves creating a windowing effect and moist-like frass with in the whorl and the upper leaves.</li> <li>✓ Kills the growing point early in the season preventing any cobs from forming. In young plants, the stem may be cut.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Use of pesticides (cypermethrin)</li> <li>✓ Cultural practices</li> <li>✓ Natural enemies</li> <li>✓ IPM and Resistance.</li> </ul>
2	Fall Armyworm	<ul style="list-style-type: none"> <li>✓ Fall army worm larvae can attack maize at all growth stages.</li> <li>✓ Larvae can defoliate and/or sever seedling maize plants at the base, producing damage similar to that caused by cut worms.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Profenós 40%+ Cypermethrin 4% EC (20-50 ml per 20 liters of water) or Thiameth – exam 141 g/l + lambda-cyhalothrin 106 g/l at rate of 10-20 ml per 20 liters of water.</li> </ul> <p>(Spray early in the morning and late in the evening when the caterpillars are actively feeding.)</p>
3	Papaya mealy bugs	<ul style="list-style-type: none"> <li>✓ Stunted growth, deformation and death of the plant.</li> <li>✓ Yellowing of crops, curling and early drop leaves.</li> <li>✓ Can lead to death of the whole crop.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Use clean planting materials.</li> <li>✓ Spot application of pesticides.</li> <li>✓ Sanitizing of equipment before use.</li> <li>✓ Pruning of infested branches</li> <li>✓ Avoid flood irrigation.</li> </ul>
4	Potato Cyst Nematode	<ul style="list-style-type: none"> <li>✓ Reduced root system, stunted growth</li> <li>✓ Yellowing of leaves and plants may wilt.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Check plants because the cysts can be seen.</li> <li>✓ Quarantine and regulatory procedures.</li> <li>✓ Crop rotation</li> </ul>
5	Snails and slugs	<ul style="list-style-type: none"> <li>✓ Create irregular holes with smooth edges on the leaves and flowers by scraping with their rasp-like tongues.</li> <li>✓ They take bites on vegetables and fruits causing unsightly crops.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Cultural control.</li> <li>✓ Biological control.</li> <li>✓ Chemical control.</li> <li>✓ Use of baits.</li> </ul>

Table 8. Showing some diseases, their symptoms and management.

No	Disease	Symptoms	Management
1	Citrus Greening Virus Disease	<ul style="list-style-type: none"> <li>✓ Visible psyllids or waxy psyllid droppings.</li> <li>✓ Fruits remain green even when they ripen.</li> <li>✓ Asymmetrical blotchy mottling of leaves.</li> <li>✓ Yellow shoots and dieback.</li> <li>✓ Stunted, sparsely foliated trees that may bloom off season.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Keep healthy plants from being infected. by avoiding movement of plants and plant materials from areas under regulatory quarantine or where the insect or disease is present.</li> </ul>
2	Banana Bunchy Top Virus Disease.	<ul style="list-style-type: none"> <li>✓ Stunted growth.</li> <li>✓ Have rosette like or bunchy and chocked appearance</li> <li>✓ Narrow leaves with yellow margins</li> <li>✓ Small deformed fruits or no fruits at all.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Rouging</li> <li>✓ Avoid carrying plants carrying aphids to healthy fields.</li> <li>✓ Use of clean banana planting materials.</li> <li>✓ Quarantine.</li> </ul>
3	Banana Bacterial Wilt	<ul style="list-style-type: none"> <li>✓ Cream to pale yellow bacterial ooze appears soon after the pseudo stem is cut.</li> <li>✓ A shriveled male bud and un even ripening of the fruit are typical symptoms</li> <li>✓ The fruits rot and stay on the stalk.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Consistent removal of infected mats.</li> <li>✓ Burying or burning infected residues</li> <li>✓ Sterilization of farm tools.</li> <li>✓ Timely removal of male buds.</li> </ul>
4	Casava Brown Streak.	<ul style="list-style-type: none"> <li>✓ Severe chlorosis and necrosis on infected leaves giving them a yellowish, mottled appearance.</li> <li>✓ Chlorosis may be associated with the veins, spanning from the mid vein, secondary and tertiary veins or rather in blotches unconnected to veins.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Field hygiene. (Uprooting and destroying all cassava plants which are showing disease symptoms)</li> </ul>

Table 9. Showing the Work plan for the Activities Consummated during Industrial Training at Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) from 28<sup>th</sup> February to 6<sup>th</sup> May 2022 for a duration of 10 weeks.

WEEK AND DATE	ACTIVITIES EXECUTED	OBJECTIVES	RESOURCES	RESPONSIBLE PERSON(S)	REMARKS.
Week 1 From 28 <sup>th</sup> TO 4 <sup>th</sup> March 2022	<ul style="list-style-type: none"> <li>✓ Reporting to place of internship.</li> <li>✓ Paid courtesy call to commissioner.</li> <li>✓ Underwent induction.</li> <li>✓ Convention with supervisor.</li> <li>✓ Discussion with supervisor.</li> <li>✓ Designing of work plan.</li> <li>✓ Writing public awareness statement report on the outbreak of the ape fly (<i>Spalpis epius</i>) in Kasese district (Western Uganda).</li> <li>✓ Making of a fact sheet on papaya mealy bug indicating Damage, Biology and Ecology, Management and Control.</li> <li>✓ Reading through the plant wise diagnostic field guide.</li> </ul>	<ul style="list-style-type: none"> <li>✓ To get Deployed.</li> <li>✓ To get a warm welcome into the department.</li> <li>✓ To undergo Orientation.</li> <li>✓ To commence internship.</li> <li>✓ To make the public aware of the outbreak of new pests (papaya mealybug and African ape fly)</li> <li>✓ To understand the different types of symptoms and their major causes and get the knowledge for help in field work.</li> <li>✓ To track progress of the industrial training.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Book</li> <li>✓ Pen</li> <li>✓ Computer</li> <li>✓ Laptops</li> <li>✓ Textbooks</li> <li>✓ Papers.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Commissioner.</li> <li>✓ Mr. Ogwang James.</li> <li>✓ Mr. Kutunga David (Field Supervisor)</li> <li>✓ Munguryek Deborah</li> </ul>	Were successfully done.
Week 2 From 7 <sup>th</sup> TO 11 <sup>th</sup> March 2022	<ul style="list-style-type: none"> <li>✓ Demonstrations on how to assemble sticky traps for control of fall army worm.</li> <li>✓ Drafting a poster on Management of Banana Bunchy Top Virus Disease.</li> <li>✓ Making of fact sheet on citrus greening disease virus.</li> <li>✓ Drafting of a work plan and budget for an extension training on Banana Bunchy Top Virus Disease, Papaya Mealybugs, Surveillance and Inspection.</li> <li>✓ Making a loose minute to Crop Protection Department requesting for funds to facilitate Surveillance of Banana Bunchy Top Virus Disease in northern</li> </ul>	<ul style="list-style-type: none"> <li>✓ To illustrate how to set up stick traps.</li> <li>✓ To provide students with an opportunity to learn by doing.</li> <li>✓ To provide facts and key points about a topic in a clear, concise and easy to understand way.</li> <li>✓ To present the formal road map for a project.</li> <li>✓ To account for accountabilities and finance.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Traps.</li> <li>✓ Sticky papers</li> <li>✓ Computers.</li> <li>✓ Note books</li> <li>✓ pens</li> </ul>	<ul style="list-style-type: none"> <li>✓ Mr. Kutunga David.</li> <li>✓ Munguryek Deborah</li> </ul>	Done successfully.

<p><b>Week 3</b> From 14<sup>th</sup> TO 18<sup>th</sup> March 2022.</p>	<p>region.</p> <ul style="list-style-type: none"> <li>✓ Data interpretation on severity and incidence of fall army worm in eastern region.</li> <li>✓ Field data entry and documentation.</li> <li>✓ Writing a project concept note on management of Papaya Mealy Bug in Uganda.</li> <li>✓ Agricultural money harvest exposition at Kololo.</li> </ul>	<ul style="list-style-type: none"> <li>✓ To help researchers to categorize, manipulate, and summarize the information in order to answer critical questions.</li> <li>✓ To improve on computer skills with proficiency in XYZ data entry applications.</li> <li>✓ To help students develop more competitive proposals.</li> <li>✓ To introduce and be introduced new products.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Computers.</li> <li>✓ Notebooks</li> <li>✓ Pens</li> <li>✓ Displays.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Mr. Kutunga David.</li> <li>✓ Other staff.</li> <li>✓ Munguryek Deborah.</li> </ul>	<p>Were perfectly completed.</p>
<p><b>Week 4</b> From 21<sup>st</sup> TO 25<sup>th</sup> March 2022</p>	<ul style="list-style-type: none"> <li>✓ Work shop intended to teach/focus on how to make recommendations after diagnosing a pest/disease.</li> <li>✓ Reflection on the knowledge of the biology of pests.</li> <li>✓ Seminar on ethical code of conduct for Agricultural Extension and Advisory Service providers (AEAS).</li> <li>✓ Drafting of Fact sheets on Potato Cyst Nematodes and Snails and Slugs indicating the damages, biology and their control.</li> <li>✓ Attended a training on Integrated Pest Management (IPM).</li> </ul>	<ul style="list-style-type: none"> <li>✓ To get ways forward.</li> <li>✓ To know how to manage pests.</li> <li>✓ To know how to handle one self while doing public service delivery.</li> <li>✓ To improve on research.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Pens</li> <li>✓ Notebooks</li> <li>✓ Laptops</li> </ul>	<ul style="list-style-type: none"> <li>✓ Mr. Kutunga David</li> <li>✓ Munguryek Deborah.</li> </ul>	<p>Were Successful.</p>
<p><b>Week 5</b> From 28<sup>th</sup> TO 1<sup>st</sup> April 2022</p>	<ul style="list-style-type: none"> <li>✓ Workshop on the naturalized and invasive plants of east Africa.</li> <li>✓ Drafting a letter by the Honorable Minister of Agriculture to the Desert Locust Control Organization for East Africa (DLCO -EA) requesting for support in control operations of the African Armyworm</li> </ul>	<ul style="list-style-type: none"> <li>✓ To be able to identify some of the alien species that are invasive, potentially invasive or naturalized in east Africa and learn the impacts of the species and about the possible options for managing them.</li> <li>✓ To get knowledge on how to address letters to</li> </ul>	<ul style="list-style-type: none"> <li>✓ Some invasive plant species.</li> <li>✓ Sample letters.</li> <li>✓ Laptops.</li> <li>✓ Note books</li> <li>✓ Pens.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Mr. Kutunga David</li> <li>✓ Other Crop Protection Department staff.</li> <li>✓ Munguryek Deborah</li> <li>✓ Farmers.</li> </ul>	<p>Were victorious.</p>

	<p>(<i>Spodoptera exempta</i>) and the letter to be addressed to the Executive Director of the Organization.</p> <ul style="list-style-type: none"> <li>✓ Drafting a poster by the Ministry of Agriculture (MAAIF) on African Army worm management.</li> <li>✓ Departmental meeting.</li> <li>✓ Inspection of orchards for incidence of mango mealybugs.</li> </ul>	<ul style="list-style-type: none"> <li>✓ dignitary offices of high hierarchy.</li> <li>✓ To be able to learn how to make visual designs and provide messages intended to promote brand awareness.</li> <li>✓ To offer open environment for discussions.</li> <li>✓ To listen to farmers concerns.</li> </ul>			
<p><b>Week 6</b> <b>From 4<sup>th</sup> TO 8<sup>th</sup> April 2022</b></p>	<ul style="list-style-type: none"> <li>✓ Inspection of okra gardens in Kakenyi district for Pest and Nutrient deficiency identification.</li> <li>✓ Rabbit production (identification of Rabbit breeds and determining of Rabbit sexes whether male or female).</li> <li>✓ Staking and training of tomatoes with locally available materials.</li> <li>✓ Irrigation of vegetable gardens.</li> <li>✓ Transplanting and mulching of strawberries.</li> </ul>	<ul style="list-style-type: none"> <li>✓ To enable us learn how to relate was is on ground in the field with farmers concerns.</li> <li>✓ To learn the different management strategies in rabbit production.</li> <li>✓ To Master the main reason for staking tomatoes.</li> <li>✓ To Realize the importance of irrigation in output.</li> <li>✓ To become aware of damages caused by not mulching strawberries being a perishable fruit.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Okra normal and affected leaves.</li> <li>✓ Rabbits</li> <li>✓ Poles.</li> <li>✓ Ropes</li> <li>✓ Water</li> <li>✓ Irrigation pipes.</li> <li>✓ Strawberry plants.</li> <li>✓ Mulch</li> </ul>	<ul style="list-style-type: none"> <li>✓ Munguryek</li> <li>✓ Deborah.</li> <li>✓ Farmers</li> </ul>	<p>Were prosperous.</p>
<p><b>Week 7</b> <b>From 11<sup>th</sup> TO 15<sup>th</sup> April 2022</b></p>	<ul style="list-style-type: none"> <li>✓ Teaching farmers on benefits of Aloevera.</li> <li>✓ Field visit for inspection of reported African army worm in Kakiri, Wakiso district at UMOJA farm.</li> <li>✓ Writing and submitting of the report for the field visit to UMOJA farm to the assistant commissioner (Ms. Tumubóine Ephrance)</li> <li>✓ Sample reception and Data entry of Grain samples collected from stores, millers and suppliers of Poultry and Animal feeds.</li> <li>✓ Good Friday.</li> <li>✓ Easter Monday.</li> </ul>	<ul style="list-style-type: none"> <li>✓ To make farmers aware of benefits of Aloevera.</li> <li>✓ To clear confusion for farmers in identifying different pests and diseases.</li> <li>✓ To learn how to describe facts that occurred in the field.</li> <li>✓ To realize the importance of sample reception.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Aloevera plants.</li> <li>✓ Different pest species (African Armyworm and Fall Armyworm)</li> <li>✓ Pesticides. (Cypermethrin)</li> <li>✓ Notebooks</li> <li>✓ Pens</li> <li>✓ Laptops</li> <li>✓ Grain samples.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Mr. Ogwang James</li> <li>✓ Mr. Gidudu</li> <li>✓ Kenneth</li> <li>✓ Munguryek</li> <li>✓ Deborah</li> <li>✓ Farmers.</li> </ul>	<p>Accomplished successfully.</p>
<p><b>Week 8</b></p>		<ul style="list-style-type: none"> <li>✓ To acquire knowledge</li> </ul>	<ul style="list-style-type: none"> <li>✓ Note books</li> </ul>	<ul style="list-style-type: none"> <li>✓ Mr. Kutunga David</li> </ul>	<p>Were successfully done.</p>

<p>From 18<sup>th</sup> TO 22<sup>nd</sup> April 2022</p>	<ul style="list-style-type: none"> <li>✓ Adaptive research</li> <li>✓ Drafting a National action plan strategy for control of African Armyworm in Uganda.</li> <li>✓ Agro forestry and FMNR sensitization.</li> <li>✓ Nursery bed establishment for tomato plants.</li> </ul>	<ul style="list-style-type: none"> <li>✓ about Agro forestry.</li> <li>✓ To acquire knowledge and skills on how to raise tree nurseries.</li> <li>✓ To learn how to adjust ratios assigned in trials.</li> <li>✓ To learn the importance of raising crops in a nursery bed.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Pens</li> <li>✓ Demos</li> <li>✓ Computers</li> <li>✓ Seeds (tomato)</li> <li>✓ Tree seedlings.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Laboratory technician</li> <li>✓ Supervisors</li> <li>✓ Munguryek</li> <li>✓ Deborah</li> <li>✓ Farmers.</li> </ul>	
<p>Week 9 From 25<sup>th</sup> TO 29<sup>th</sup> April 2022.</p>	<ul style="list-style-type: none"> <li>✓ Writing of a brief to the new minister about plant clinic operations in Uganda.</li> <li>✓ Making of a brochure on African Armyworm</li> <li>✓ Mobilization and sensitization on farmers on the importance of farmer groups.</li> <li>✓ Capacity building of farmers on Local Seed Business (LSB) model</li> <li>✓ Office work and Management.</li> <li>✓ Hands on training of farmer groups on soil and water conservation farming best practices.</li> </ul>	<ul style="list-style-type: none"> <li>✓ To find out how plant clinics operate in Uganda.</li> <li>✓ To learn how to capture viewers' attention.</li> <li>✓ To acquire mobilization skills.</li> <li>✓ To sensitize farmers on the importance of farmer groups</li> <li>✓ To acquire knowledge on quality seeds for increased crop productivity</li> <li>✓ To accomplish tasks delegated</li> <li>✓ To develop working relations</li> <li>✓ To acquire skills and knowledge on soil and water conservation practices.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Pens</li> <li>✓ Books</li> <li>✓ Laptops</li> <li>✓ Charts</li> <li>✓ Seeds</li> <li>✓ Markers.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Supervisors.</li> <li>✓ Supporting staff</li> <li>✓ Munguryek</li> <li>✓ Deborah</li> <li>✓ Farmers.</li> </ul>	<p>Tasks accomplished successfully.</p>
<p>Week 10 From 2<sup>nd</sup> TO 6<sup>th</sup> May 2022</p>	<ul style="list-style-type: none"> <li>✓ Supervision by the academic supervisor.</li> <li>✓ Report writing.</li> </ul>	<ul style="list-style-type: none"> <li>✓ To track progress of the industrial training.</li> <li>✓ To report success of the training.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Log books</li> <li>✓ Workplan</li> <li>✓ Weekly reports</li> </ul>	<ul style="list-style-type: none"> <li>✓ Field supervisor</li> <li>✓ Academic supervisor.</li> <li>✓ Munguryek</li> <li>✓ Deborah</li> </ul>	<p>Was successful.</p>

**Appendix 2. (PHOTOS)**



**Fig 1. Indicating disease identification.**



**Fig 2. Indicating sexing of Rabbits.**



**Fig 3. Indicating a Departmental Meeting.**



**FAW.**



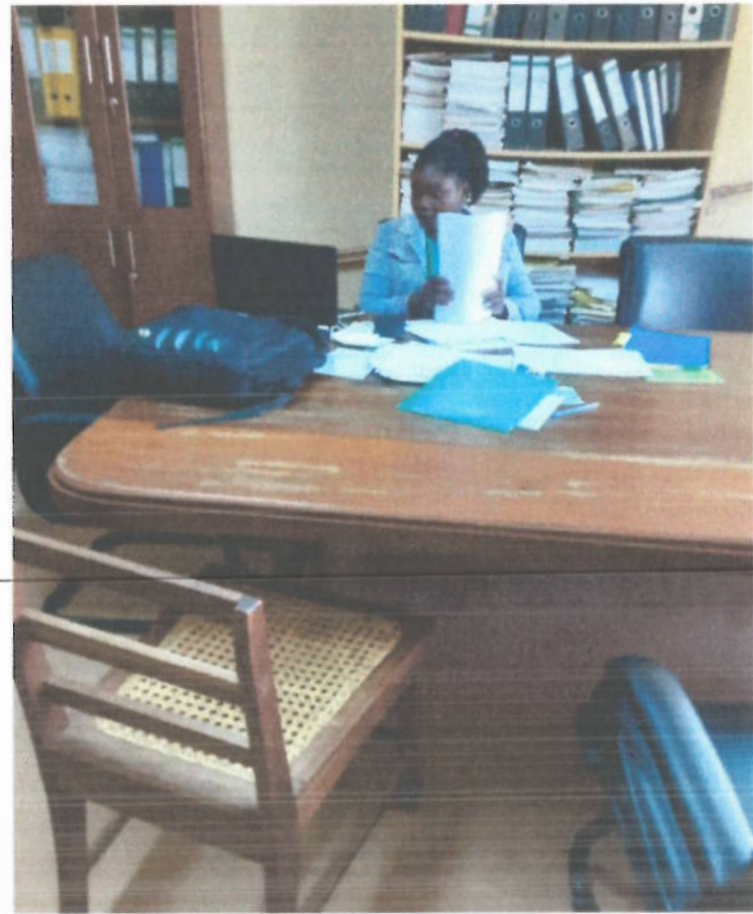
**Fig 5. Indicating irrigation of vegetable gardens.**



**Fig 6. Indicating demonstration of how to set up traps**



**Fig 7. Indicating Transplanting of straw berries.**



**Fig 8. Indicating Office work and Management.**





**Fig 9. Indicating Sensitization on Aloe vera plants. Fig 10. Indicating mulching of tomato plants.**

Fig. 11. Indicating a Factsheet showing the Biology, Damages and Control of snails and slugs.



## MINISTRY OF AGRICULTURE ANIMAL INDUSTRY AND FISHERIES

### Biology, Damage and Management of Snails and slugs.

#### Identification and Biology.

Snails and slugs are among the most destructive pests found in gardens and land scapes.

Both are members of mollusk phylum and are similar in structure and biology except that slugs lack the snail's spiral shell.

All land slugs and snails are hermaphrodites, so they are able to lay eggs after mating with another individual.

Slugs reach maturity after about 3 to 6 months, depending on the species. They are most active at night and on cloudy or foggy days. On sunny days, they seek for hiding places.



Snail.



Slug

#### Damage.

They feed on a variety of living plants and on decaying plant matter. They create irregular holes with smooth edges on the leaves and flowers by scraping with their rasp-like tongues.

They are primarily pests of seeds, seedlings, underground tubers, leaves, fruit and herbaceous plants. Damage to seedlings often results in the death of the plant.

They eat any kind of foliage, but you will often find them doing the most damage to tender leaves and stems of seedlings.

They also take bites on vegetables and fruits (particularly soft fruits like strawberries), causing unsightly crops.



Damage on leaves

#### Management.

- A good snail management program relies on a combination of methods. The first step is to eliminate as much as possible in all places where they can hide during the day.
- Cultural control by: planting susceptible and resistant plants, hand picking, traps, barriers.
- Biological control. They have many natural enemies including ground beetles, rats, pathogens, snakes, toads, turtles, and both domestic and wild birds.
- Chemical control.
- Placement of baits.



Excessive damage on leaves.

NB: when using a pesticide, always wear protective clothing and follow instructions on the product label, such as dosage, timing of application, and pre harvest interval.

For more information please contact the department of crop protection, P.O. BOX 1P2, Entebbe, Tel: 041 4320115, 041 4320801, Email: [cep@agriculture.go.ug](mailto:cep@agriculture.go.ug) or a nearby agricultural extension worker.

## REFERENCES.

1. The Plant wise Pesticide Red List is available on the Plant wise Knowledge bank: [www.plantwise.org/pesticide-restrictions](http://www.plantwise.org/pesticide-restrictions)
2. Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade: [www.pic.int](http://www.pic.int)
3. Stockholm Convention on Persistent Organic Pollutants: [chm.pops.int](http://chm.pops.int)
4. Montreal Protocol on Substances that Deplete the Ozone Layer: [www.ozone.unep.org](http://www.ozone.unep.org)
5. The WHO Recommended Classification of Pesticides by Hazard and Guidelines to Classification 2009: [www.who.int/ipcs/publications/pesticides-hazard/en/](http://www.who.int/ipcs/publications/pesticides-hazard/en/)
6. Agriculture and Resource Management Council of Australia and New Zealand and National Weed Strategy Executive Committee (Australia) (2001).
7. Akobundu IO (1987) Weed Science in the Tropics: Principles and Practices: John Wiley & Sons, 522 pp.
8. MAAIF (26 September 2016). "Ministry of Agriculture, Animal Industry and Fisheries: About Us" (<https://web.archive.org/web/20160911061147/http://www.agriculture.go.ug/About-Us/7> Entebbe: Ministry of Agriculture, Animal Industry and Fisheries (MAAIF). Archived from The original (<http://www.agriculture.go.ug/About-Us/77>) on 11 September 2016. Retrieved 26 September 2016.
9. Uganda State House (6 June 2016). "Museveni's new cabinet list at 6 June 2016" (<http://www.monitor.co.ug/blob/view/-/3235304/data/1345443/-/3o16hn/-/Museveni%2527s+cabinet.pdf>) (PDF). Daily Monitor. Kampala. Retrieved 6 June 2016.
10. MAAIF (26 September 2016). "Ministry of Agriculture, Animal Industry and Fisheries: Contact Us" (<https://web.archive.org/web/20160925082054/http://www.agriculture.go.ug/location>). Entebbe: Ministry of Agriculture, Animal Industry and Fisheries (MAAIF). Archived from the original (<http://www.agriculture.go.ug/location>) on 25 September 2016. Retrieved 26 September 2016.
11. MAAIF (September 2016). "Ministry of Agriculture, Animal Industry and Fisheries (Uganda): Departments" (<http://www.agriculture.go.ug/departments>). Entebbe: Ministry of Agriculture, Animal Industry and Fisheries (Uganda) (MAAIF). Retrieved 26 September 2016.
12. Tentena, Paul (19 July 2016). "Uganda targets quality seed" (<http://www.busiweek.com/index1.php?Ctp=2&pl=5404&pLv=3&srI=84&spI=463>). East African Business Week. Kampala. Retrieved 26 September 2016.
13. Fisheries (Uganda) (MAAIF). Archived from the original (<http://www.agriculture.go.ug/agencies>) on 13 November 2017. Retrieved 26 September 2016. Webpage of the Uganda Ministry of Agriculture, Animal Industry and Fisheries (<http://www.agriculture.go.ug/>)



BUSITEMA  
UNIVERSITY  
*Pursuing Excellence*

P.O. Box 236, Tororo, Uganda  
Gen: +256 - 45 424 8638  
Fax: +256 - 45 4436517  
Email: [info@padm.busitema.ac.ug](mailto:info@padm.busitema.ac.ug)  
[www.busitema.ac.ug](http://www.busitema.ac.ug)

INDUSTRIAL TRAINING  
WEEKLY LOGBOOK


NAME:

PUNGUPTER BEBOR AH.

REG. NO.

BSU /UG /2019 /2924.

1<sup>st</sup> Week FROM 28<sup>TH</sup> FEBRUARY 2022 TO 4<sup>TH</sup> MARCH 2022

Date	Activities Carried Out	Relevance of Activity to you as a Student	Participants	Comments and Signature of Field Supervisor/ Responsible Person
28 <sup>TH</sup> FEB 2022	<ul style="list-style-type: none"> <li>- Reported to the department of Crop protection for my internship.</li> <li>- Paid a Courtesy Call to the Commissioners</li> </ul>	<ul style="list-style-type: none"> <li>- Official deployment.</li> </ul>	<ul style="list-style-type: none"> <li>- Pangurayek Sebarah.</li> </ul>	<p>The intern was under orientation. She was guided on the basics about the institution.</p> <p>David K 2/3/2022</p> 
MONDAY.	<ul style="list-style-type: none"> <li>- Underwent an induction by a Staff.</li> </ul>	<ul style="list-style-type: none"> <li>- I was welcomed to the department.</li> <li>- I underwent Orientation</li> </ul>	<ul style="list-style-type: none"> <li>- Commissioners: Pangurayek Sebarah</li> <li>- Mr. Gwang James Pangurayek Kobarah.</li> </ul>	
01 <sup>ST</sup> MARCH 2022.	<ul style="list-style-type: none"> <li>- Had a conversation with my Supervisor and handed in my Application Letter.</li> <li>- Had discussion with my supervisor about how the Internship would run smoothly.</li> </ul>	<ul style="list-style-type: none"> <li>- Commencement of Internship</li> </ul>	<ul style="list-style-type: none"> <li>- Mr. Kertana David (Supervisor), Pangurayek Sebarah.</li> </ul>	
TUESDAY.	<ul style="list-style-type: none"> <li>- Making listing of a public awareness statement report on the outbreak of the Ape fly (spiral) in Karawe district. Klerkin Uqandq.</li> </ul>	<ul style="list-style-type: none"> <li>- The activity improved my reporting skills, listing public notices and also made me know about the outbreak of the Ape fly in Uqandq.</li> </ul>	<ul style="list-style-type: none"> <li>- Mr. Kertana David, Pangurayek Sebarah.</li> </ul>	
02 <sup>ND</sup> MARCH 2022	<ul style="list-style-type: none"> <li>- Making listing of a public awareness statement report on the outbreak of the Ape fly (spiral) in Karawe district. Klerkin Uqandq.</li> </ul>			

Name: PANGURAYEK SEBARAH Reg. No. 2414412017/2924

Class: BCF II Signature: 

2nd Week: FROM 07<sup>th</sup> MARCH 2022 TO 11<sup>th</sup> MARCH 2022

Date	Activities Carried Out	Relevance of Activity to you as a Student	Participants	Comments and Signature of Field Supervisor/ Responsible Person
07 <sup>th</sup> MARCH 2022	- Assembled Sticky traps for control of Fall Army worms	- Learned how to set the sticky traps to help control pests and how to manage them.	- Mr. Kufungwa David	<p>The intern was guided on how IEC materials for pest &amp; disease control can be drafted. she has the knowledge now</p> <p>3/3/2022</p>
MONDAY			- Munguiek - Seberah.	
08 <sup>th</sup> MARCH 2022	MONUMENT DAY.			
TUESDAY	- Drafted a poster on Management of Banana Bunchy Top Virus disease.	- Learned how to make eye catching and informative Awareness materials	- Munguiek - Seberah.	
09 <sup>th</sup> MARCH 2022	- Made a Fact Sheet on Citrus greening disease virus.	- Discussed the difference between a poster and a fact sheet as a fact sheet is more brief but indicating all info/ information.		
WEDNESDAY				

Name: MUNGUWIK SEBERAH

Reg. No. BU/UG/2019/2924

Class: ACP II

Signature: [Signature]

3rd Week: FROM 14<sup>th</sup> MARCH 2022 TO 15<sup>th</sup> MARCH 2022

Date	Activities Carried Out	Relevance of Activity to you as a Student	Participants	Comments and Signature of Field Supervisor/ Responsible Person
14 <sup>th</sup> MARCH 2022. MONDAY	Data interpretation on the Amount of Incidence and Severity of fall Army worm in Eastern Region given the Surveillance form.	Learned how to categorise, Manipulate and summarise collected information assigning meaning and determining conclusions / Significance and the Implication of the findings.	Punguzyek & Deberah.	
15 <sup>th</sup> MARCH 2022. TUESDAY	Entering of Data for field work on suspected large mealie bug infestation in different locations (Districts) in Uganda. Noting the Co-ordinates, Number of samples and Developmental Stages of the samples.	Ascertained documentation of field data and how to give feedback in report form. Discovered that field data is important (clear picture to give into what is happening at the site) helping to contextualise problems with in wider ecosystems and other managers and other executives the insights they need to make informed and sound decisions.	Mr. Kamulegeya Patrick. Punguzyek Deberah.	The intervi learnt key basics in crop pests and disease control especially on data collection and analysis. David-K 15/3/2022

Name: PUNGUZYEK DEBERAH

Reg. No. BULUG/2017/2924

Class: BCP II

Signature: [Signature]

4th Week: FROM 21<sup>ST</sup> MARCH 2022 TO 25<sup>TH</sup> MARCH 2022

Date	Activities Carried Out	Relevance of Activity to you as a Student	Participants	Comments and Signature of Field Supervisor/ Responsible Person
21 <sup>ST</sup> MARCH 2022 MONDAY	Workshop intended to teach focus on how to make recommendations after diagnosing a pest/disease.	I grasped how to give farmers way forward (prescription)	Crop protection staff - Munguyek Bebeah	The intern was passed through ethical code of conduct skills & knowledge on pest diagnosis was exposed on it to the intern  David K 23/3/2022
22 <sup>ND</sup> MARCH 2022 TUESDAY	Lecture on the knowledge of the Biology of pest.	I mastered how to consider the options we have in the attempt to control the pests.	Munguyek Bebeah	
23 <sup>RD</sup> MARCH 2022 WEDNESDAY	Lecture on the Ethical code of conduct for Agricultural Extension and Advisory Service providers (AFAS)	I acquired knowledge on how to conduct myself myself during public service delivery (Extension Services)	Staff - Munguyek Bebeah	

Name: MUNGUYEK BEBEAH  
Class: ACP II

Reg. No. BU/UG/2019/2924  
Signature: [Signature]



5th Week: FROM 28<sup>TH</sup> MARCH 2022 TO 1<sup>ST</sup> APRIL 2022

Date	Activities Carried Out	Relevance of Activity to you as a Student	Participants	Comments and Signature of Field Supervisor/ Responsible Person
28 <sup>TH</sup> MARCH 2022	<p>Workshop on the Naturalized Africa and Invasive plants of East Africa</p>	<p>I became certain on how to identify some of the African species that are invasive, potentially invasive or Naturalized in East Africa and learnt the impact of the species and about the possible options for managing and controlling such plants.</p>	<p>CPA Staff Punguget Keberah</p>	<p>official letter writing is key to office administration. The interva was impacted with the skills in letter writing. She is in better position to communicate formally to higher offices</p> <p>David K 29/3/2022</p>
29 <sup>TH</sup> MARCH 2022	<p>Writing a letter by the then Minister of Agriculture informing the District level Central Organization for F.A (ALCO FA) regarding FA support in control operations of the African Army worm (Spodoptera exempta) to be advised to the Executive director of the Organization.</p>	<p>Got knowledge on how to address letters to dignitary offices of High Hierarchy in reference to requesting for technical assistance.</p>	<p>Mr. Kutingon David Punguget Keberah</p>	

Name: PUNGUGET KEBERAH Reg. No. BULUGI/2019/2924

Class: BCP II Signature: [Signature]

6th Week: FRIDAY 4<sup>TH</sup> APRIL 2022 TO 5<sup>TH</sup> APRIL 2022

Date	Activities Carried Out	Relevance of Activity to you as a Student	Participants	Comments and Signature of Field Supervisor/ Responsible Person
<p>14<sup>TH</sup> APRIL 2022. MONDAY.</p>	<p>Inspection of Okra garden in farmers' district to identify pests and nutrient deficiencies.</p>	<p>-troubled me to listen to concerns of farmers and relate with what was on ground (field) and solve them possible to them.</p>	<p>-Nunquiyek Sebach</p>	<p>The inter-acquired skills in Okra production and rabbit rearing.</p> <p>David. K 35/4/2022</p>
<p>15<sup>TH</sup> APRIL 2022. TUESDAY.</p>	<p>-Rabbit production</p> <p>Identifications of Rabbit breeds and determining the sex of rabbits whether male or female.</p>	<p>-Unearthed many rabbit production management practices in order to keep successful during production, sexing, breeding, housing, feeding and their management.</p> <p>Realized that Rabbit production is more convenient than other and rabbits in most of their farming because of the animal because of the cost of small space. It is an animal that can be profitable and that is why profitable and that is why I back with in energy and give you more.</p>	<p>-Farmers Nunquiyek Sebach</p>	

Name: NUNGUYTEK FERDRAH Reg. No. BULUG/2017/12924

Class: KCP II Signature: [Signature]

7th Week: FROM 11<sup>TH</sup> APRIL 2022 TO 15<sup>TH</sup> APRIL 2022

Date	Activities Carried Out	Relevance of Activity to you as a Student	Participants	Comments and Signature of Field Supervisor/ Responsible Person
11 <sup>TH</sup> APRIL 2022	Teaching Farmer on Benefits of Weevils.	Knew certain and taught farmer the difference between that we weevils such as biological indicators, fumigants, insecticides, food, and also informed them and also informed them that weevils is a medical plant used to treat different health conditions for example wound healing, reducing dental plaque, treating cancer sites, reducing contamination, lowering blood sugar levels among others.	- P. Munguiek - Seberakh	Field inspection skills. Key to control of crop pest & diseases. She did this perfectly.  David K. 12/4/2022
12 <sup>TH</sup> APRIL 2022	Field visit for inspection of reported African Army worm in Kakili, Kakrisi district of STARDJA FARM.	Got actual information on the field and helped in clearing confusion to farmers. ie, The farm reported infestation of African Armyworm yet it was Fall Army worm.	- P. Dyanjany James - P. Giddulu - P. Keneth - P. Munguiek - Seberakh.	
12 <sup>TH</sup> APRIL 2022				

Name: MUNGUIEK SEBERAKH  
Reg. No. BULU/2019/12924

Class: BCF II  
Signature: [Signature]

8th Week: FROM 18<sup>TH</sup> APRIL 2022 - 22<sup>ND</sup> APRIL 2022

Date	Activities Carried Out	Relevance of Activity to you as a Student	Participants	Comments and Signature of Field Supervisor/ Responsible Person
18 <sup>TH</sup> APRIL 2022	EASTER MONDAY	-	-	
19 <sup>TH</sup> APRIL 2022	- Adaptive Research	- Learnt how to adjust ratios assigned in trials, favouring the better performing treatments.	- Laboratory technician - Kunyirek Deborah	
TUESDAY				
20 <sup>TH</sup> APRIL 2022	- Drafted a National Action plan strategy for control of African trypanosomiasis in Uganda	- Learnt that having a clear and focused strategy is clearly important to the success of the intervention and it requires decision making. A well planned team is more productive and hence successful.	- Dr. Kutyungu David - Kunyirek Deborah	Draft National strategic action plan development is one of the key aspects to pests & disease control. Deborah had to develop a draft. It's good. S 27/4/22

Name: KUNYIREK DEBORAH

Reg. No. BU/UG/2019/25124

Class: BCP II

Signature: 

9th Week: FROM 25<sup>TH</sup> APRIL TO 29<sup>TH</sup> APRIL 2022

Date	Activities Carried Out	Relevance of Activity to you as a Student	Participants	Comments and Signature of Field Supervisor/ Responsible Person
25 <sup>TH</sup> APRIL 2022	- Wrote a brief to the New Minister about plant clinics in Uganda.	- Found out that farmers access plant health advisory services that are specific to their individual problems occurring in their fields.	Punguzyek Seberah	<p>I Concur with the intern's perspective on the activities conducted.</p> <p>David. K 27/4/2022</p>
26 <sup>TH</sup> APRIL 2022	- Made a Brochure on African Army worm. (AAW)	- learnt how to capture attention of farmers and how to impart alot of information in a small area.	Punguzyek Seberah	
27 <sup>TH</sup> APRIL 2022	- Mobilized and sensitized farmers on the importance of farmer groups.	- Helped in sustainability of programme project by motivating them (farmers) and encouraging participatory capacity building and empowering the community.	Punguzyek Seberah Farmers.	
WEDNESDAY				
THURSDAY				

Name: PUNGUZYEK DEBORAH Reg. No. BUUG12019/2224

Class: KCP II Signature: [Signature]

10<sup>th</sup> Week: FRI 19<sup>TH</sup> 2<sup>ND</sup> PM TO 6<sup>TH</sup> PM 2022

Date	Activities Carried Out	Relevance of Activity to you as a Student	Participants	Comments and Signature of Field Supervisor/ Responsible Person
<p>5<sup>TH</sup> MAY 2022</p> <p>TUESDAY</p>	<p>Supervision By the Academic Supervisor</p>	<p>Keeps a questioning and reflective eye on the work of the industry during the industrial training.</p> <p>Tracks results and the overall working environment.</p> <p>Effective way to promote on the task behavior in the field, and prevents the occurrence of problem behaviours.</p> <p>Employs positive contact of students with different people.</p> <p>Plays a vital role in enabling students to fulfill their potential and help them to become independent researchers which is a significant achievement.</p>	<p>Purpura K Seberich</p>	<p><i>(Signature)</i></p>

Name: NUUNGUURNEK SEBORAH

Reg. No. BU/UG/2017/ 2724

Class: ACP II

Signature: *(Signature)*