



**Field Attachment Two Report Conducted at Buseesa Demonstration Farm, Buseesa
Village, Matale Sub-county, Kibaale District, Mid-Western Uganda**

Kugonza Robinah

Reg. No:22/ARU/BSSA/022

Faculty Mentor: Mr. Kusiima Jackson

**A Field Attachment Report Submitted to the Faculty of Technonogy for Rural
Transformation as Partial Fulfillment for the Award of A Bachalors Degree of Science
in Sustainable Agriculture of African Rural University**

July, 2025

Table of Contents

Declaration	v
Approval	vi
Dedication	vii
Acknowledgment	viii
Abstract	ix
Acronyms	x
Chapter One	1
General Introduction	1
1.1 Background of African Rural University (ARU)	1
1.2 Background of Field Attachment	2
1.3 Objectives of Field Attachment	2
1.4 Background of Buseesa Community Development Organization (BCDO)	3
1.5 Vision of BCDO	4
1.6 Mission of BCDO	4
1.5 Vision of BCDO	5
BCDO ORGANISATION STRACTURE	5
2.3 Roles of the Host Farm, Immediate Supervisor, or Farm Manager	6
2.5 Roles of the Student	6
2.4 Role of the University Supervisor / African Rural University (ARU)	6
Chapter Two	7
Presentation of Results/Activities	7
2.0 Introduction	7
2.1 Animal Production	7
2.1.2 Vaccination of Birds Against Newcastle and Infectious Bronchitis Diseases	8
2.1.3 Litter Management	9
2.1.4 Stock Taking and Physical Counting of Livestock and Poultry	11
2.1.5 Egg Collection and Egg Record-Keeping	12
2.1.6 Drug Administration in the Cattle Section	13
2.1.7 Postmortem Inspection in the Goat Section	14

Table of Figures

FIGURE 1: APPRENTICE TAKING MEASUREMENTS DURING FEED FORMULATION AND FEEDING BIRDS.....	ERROR! BOOKMARK NOT DEFINED.,9
FIGURE 2. THE APPRENTICE RECONSTITUTING THE NC/IB VACCINE AND ADMINISTERING IT VIA DRINKING WATER.	10 ERROR! BOOKMARK NOT DEFINED.
FIGURE 3.THE APPRENTICE TAKING NOTE OF BUMPY FOOT DISEASE AND LATER DIGGING OUT MOIST AND CAKED POULTRY LITTER.....	11
FIGURE 4. THE APPRENTICE PHYSICALLY COUNTING POULTRY WITH A COLLEAGUE. ..	12 ERROR! BOOKMARK NOT DEFINED.
FIGURE 5. THE APPRENTICE COLLECTING EGGS AND RECORDING THE QUANTITIES COLLECTED DURING THE FIRST ROUND OF EGG COLLECTION.....	ERROR! BOOKMARK NOT DEFINED. 13
FIGURE 6. THE APPRENTICE MEASURING THE CORRECT DRUG DOSE AND ADMINISTERING IT TO THE COW VIA INJECTION.	ERROR! BOOKMARK NOT DEFINED. 15
FIGURE 7. THE APPRENTICE CONDUCTING A POSTMORTEM TO DETERMINE THE CAUSE OF DEATH.	ERROR! BOOKMARK NOT DEFINED. 16
FIGURE 8. THE APPRENTICE LEARNING THE ORF DISEASE MANAGEMENT PROTOCOL FROM THE FARM MANAGER	ERROR! BOOKMARK NOT DEFINED. 18
FIGURE 9.THE APPRENTINCE ASSISTING IN THE MANAGEMENT OF DYSTOCIA IN A GOAT.....	19
FIGURE 10.THE APPRENTINCE NAILING WOOD IN A BROKEN PIG STY AND AND LAYING BRICKS ON A BROKEN FEED TROUGH.....	20
FIGURE 11.THE APPRENTICE FEEDING PIGS.	ERROR! BOOKMARK NOT DEFINED. 21
FIGURE 12. VEGETABLE MANAGEMENT PRACTICES AT DIFFERENT STAGES.	ERROR! BOOKMARK NOT DEFINED. 23
FIGURE.13 .IN THE BANNANA PLANTATION DURING PRUNING AND DESUCKERING	ERROR! BOOKMARK NOT DEFINED. 24
FIGURE 14.PREPARATION AND USE OF A BIOPESTICIDE (BT) AND A FOLIAR FERTILIZER (RABBIT URINE) AT DIFFERENT STAGES.....	ERROR! BOOKMARK NOT DEFINED. 26
FIGURE 15.THE APPRENTICE PARTICIPATING IN A REVIEW MEETING AND A PLANNING MEETING AT THE FARM.	ERROR! BOOKMARK NOT DEFINED. 27
FIGURE 16.THE APPRENTICE ATTENDING A FISH FARMING LECTURE AND POULTRY PRODUCTION LECTURE.....	ERROR! BOOKMARK NOT DEFINED. 28
FIGURE 17.THE APPRENTICE FACILITATING A SESSION ON VISIONARY PLANNING AT THE FARM.	ERROR! BOOKMARK NOT DEFINED. 29

2.1.8 Management of Orf Disease in Goats.....	16
2.1.9 Management of Dystocia in the Goat Unit	17
2.2. Activities Done at the Piggery Section.....	18
2.3 Activities Under Crop Production.....	21
2.3.3 Introduction and Use of a Natural Biopesticide and a Foliar Fertilizer at the Farm.....	23
2.5. Four Farm Meetings Attended	25
2.6 .Five Farm Lectures Attended	26
2.7 Waste Management.....	27
2.7. Farm Visionary Planning Enhanced	28
Chapter Three	29
3.0 Analysis and Evaluation.....	29
3.1 Evaluation of the Host Farm	29
3.2 Lessons Learnt	30
3.3 Challenges Faced	30
Chapter Four	30
4.1 Conclusions.....	30
4.2 Recommendations.....	31
References.....	32
Appendices	33
Structural Tension Chart (STC)	33

Declaration

I, **Kugonza Robinah**, declare that the information contained in this report is a result of my own physical and mental effort. This report has not been submitted to any institution for the award of a degree or any other academic qualification.

Signature:  Date: 

Kugonza Robinah

22/ARU/BSSA/002

Approval

We hereby certify that, this field attachment two report of Kugonza Robinah was carried out at **Buseesa Demonstration Farm**, Buseesa Village, Matale Sub-County, Kibaale District, and was prepared under our guidance, mentorship and its submitted with our approval as student's supervisors.

Signature:  Date: 30/7/2025

Mr. Kusiima Jackson

Faculty Mentor

Signature:  Date: 30/7/2025

Mr. Kiseembo Robert

Field Mentor

Dedication

This report is dedicated to my fellow students of the **Bachelor of Science in Sustainable Agriculture** (First to Fourth Year), my friends pursuing **Bachelor in Rural Development**, other academicians of **African Rural University**, my beloved family members, and all the lecturers of African Rural University for their combined support and effort throughout my academic journey.

Acknowledgment

I express my sincere gratitude to the following individuals and institutions whose support made this field attachment possible:

Dr. Richard Lubega, Director of Buseesa Community Development Organization (BCDO), for the opportunity to carry out my Field Attachment II activities at the organization.

Mr. Joseph, Human Resources Manager at BCDO, for his warm welcome and support during my internship period.

Mr. Kitembo Robert, Farm Manager at Buseesa Demonstration Farm, for his mentorship throughout my field attachment.

Dr. Justus Kasoozi, Farm Consultant, for his timely responses and valuable advice whenever consulted.

The management and administration of African Rural University for the financial and material support provided during my placement.

Mr. Kusiima Jackson, my faculty mentor and university supervisor, for his consistent guidance and mentorship.

The Faculty of Technology for Rural Transformation at African Rural University, especially the Vice Chancellor Dr. Mwalimu Musheshe, Dean Dr. Sengonzi Bagenda, and Faculty Administrator Ms. Muhindo Milly Desire, for their leadership and support.

Lastly, my colleague Kajumba Monica for her cooperation, guidance, and encouragement during the field activities.

Abstract

This one-month Field Attachment II was conducted in line with the 2024/2025 field attachment objectives. It took place from **5th June 2025 to 5th July 2025** at **Buseesa Demonstration Farm**, under **Buseesa Community Development Organization (BCDO)**, located in Buseesa Trading Centre, Matala Sub-County, Kibaale District, Mid-Western Uganda, along Kakumiro–Kibaale Road. During the attachment, the intern worked closely with the farm manager, farm consultant (animal scientist), casual workers, and community members. The following methods were applied: interviewing, documentation, observation, hands-on practical work, exposure to field realities, lectures, visionary approach, and Participatory Action Research (PAR). Key skills gained included: Goal setting and resource allocation, Livestock restraint, post-mortem inspection, and drug administration. Soil, water, and nutrient management, Organic gardening and vaccine handling, Waste management and environmental stewardship, Teaching and training, Dystocia management in goats, Fruit tree care and IMO structure in piggery management, Natural crop pest management. The key results achieved by the intern included: One compost pit created for improved waste management, Improved nutrition through proper backyard vegetable garden management, Organic biopesticide and foliar fertilizer developed and used, One pasture legume garden (Lablab) weeded and one pasture garden (Super Napier) planted, 3,000 layer birds vaccinated against Newcastle disease and infectious bronchitis, Poultry litter effectively managed, Orf disease managed in five goats, One case of dystocia in a goat successfully handled and a five-year farm vision developed and a structural Tension chart (STC) formulated.

Abbreviations

PAR Participatory Action Research

STC Structural Tension Chart

VA Visionary Approach

IMO Indigenous Microorganisms

BCDO Buseesa Community Development Organization

BUDEFA Buseesa Demonstration Farm

FM Farm Manager

HRM Human Resource Manager

NGO Non-Governmental Organization

CHAPTER ONE

General Introduction

This chapter presents the background of the African Rural University, the purpose and structure of the field attachment program, the hosting organization—Buseesa Community Development Organization (BCDO), and the objectives of the field attachment.

1.1 Background of African Rural University (ARU)

African Rural University (ARU) was founded by the Uganda Rural Development and Training Programme (URDT). It is dedicated to providing women with the necessary knowledge, skills, and experience to become effective Rural Transformation Specialists and Change Agents. ARU uses a Visionary Approach methodology, which enables graduates to help communities improve their quality of life and achieve sustainable transformation.

The vision of ARU is to be an institution with governance and management systems that promote participatory decision-making, transformational education, Indigenous Knowledge development, and production of community-based outputs such as publications, public lectures, and research.

The mission of ARU is to provide transformational education that creates effective change agents within the African development context. ARU applies a unique blend of theoretical learning, innovative instruction, and field practice. Through Participatory Action Research (PAR), students learn to foster community leadership and build capacity for self-generated and sustainable change.

The ARU education model includes an integrated curriculum with **60% theoretical** learning and **40% practical** application. This balance equips women to become competent Rural Transformation Specialists (RTS) capable of addressing community challenges. *(Wikipedia, 2021)*

1.2 Background of Field Attachment

To fulfill the 40% practical learning requirement and prepare students for real-life experience, students in their second and third year (after completing four and six semesters respectively) are assigned to the field. During this period, students are introduced to various farms to gain practical experience in modern agriculture technologies, extension work, program development, and farm management.

Learners are expected to apply theoretical knowledge to hands-on activities at the organization or farm of placement. Field attachment also strengthens interpersonal relations with farming communities and introduces students to rural sociological principles and participatory approaches. This fulfills ARU's model of combining 60% theory with 40% practical learning.

For this reason, the second field attachment was conducted at **Buseesa Demonstration Farm (BUDEFA)**, under the **Buseesa Community Development Organization (BCDO)**. The site is located in Buseesa Trading Centre, Matala Sub-County, Kibaale District, Mid-Western Uganda, along the Kakumiro–Kibaale Road. The attachment lasted four weeks (one month), during which I and my colleague, Kajumba Monica, were deployed to BUDEFA as part of the university's practical learning requirement.

Following the attachment, each student is required to submit a field report for assessment. One copy of the report is also shared with the host organization

1.3 Objectives of Field Attachment

The field attachment aimed to:

- Develop skills in the application of agricultural theory.
- Enable students to acquire good work habits and professional conduct.
- Equip students with knowledge of sustainable and eco-friendly agricultural practices.
- Empower farmers in visionary planning and strategic thinking.

1.4 Background of Buseesa Community Development Organization (BCDO)

Buseesa Community Development Organization (BCDO) is a registered non-governmental organization (NGO) based in Uganda, committed to fostering community-driven development and empowerment. The organization operates in the following strategic areas:

Education and Skills Development

Supporting vocational training for students and youth.

Mentoring students through partnerships with academic institutions such as schools, tertiary institutions, and universities.

Providing access to educational resources and scholarship opportunities.

Agricultural and Economic Empowerment

Training farmers in modern and sustainable farming practices through the Lubega Investment Initiative Demonstration Farm.

Promoting agro-ecotourism and farm-based income-generating activities.

Strengthening community savings and credit cooperatives, such as the Buyanja East Fishermen Emyooga SACCO, to improve household income.

Environmental Sustainability

Advocating for tree planting, renewable energy, and proper waste management.

Promoting organic farming and environmentally friendly practices such as beekeeping and agroforestry.

Establishing sack mountain gardens and promoting climate-smart agricultural practices.

Capacity Building and Advocacy

Training community leaders in governance, entrepreneurship, and advocacy.

Supporting marginalized groups, including women and youth, to engage in decision-making processes.

Advocating for inclusive policies and increased funding for rural development initiatives.

Health and Well-being

Providing preventive healthcare services, including cervical cancer screening, maternal health education, and HIV/AIDS awareness.

Promoting reproductive health and family planning through community radio programs and outreach activities.

Strengthening the capacity of local health workers to provide quality healthcare services.

In 2014, BCDO established the **Buseesa Demonstration Farm (BUDEFA)**—an agricultural model farm developed into a four-acre project. The farm includes diverse enterprises such as poultry, dairy cattle, goats, piggery, rabbitry, sack mountain gardens, fish farming, Hass avocado, banana and coffee plantations, apiary, pasture gardens, and recreation areas.

BUDEFA provides a hands-on learning environment where students gain practical skills in modern agriculture, livestock management, and sustainable farming. Over the years, BUDEFA has hosted and trained students from institutions including African Rural University, Mountains of the Moon University, Metropolitan International University, St. Andrea Kaahwa Vocational Institute (Kooki Haibaale), Buhimba Technical Institute, Mubende Polytechnic, and Birembo War Memorial Institute—contributing significantly to their academic and professional development

1.5 Vision of BCDO

A community with better health and steady income at the household level.

1.6 Mission of BCDO

The mission of BCDO is to combine efforts and resources to respond to social needs through the enhancement of self-help activities and the provision of improved health services.

In project development, the organization focuses on:

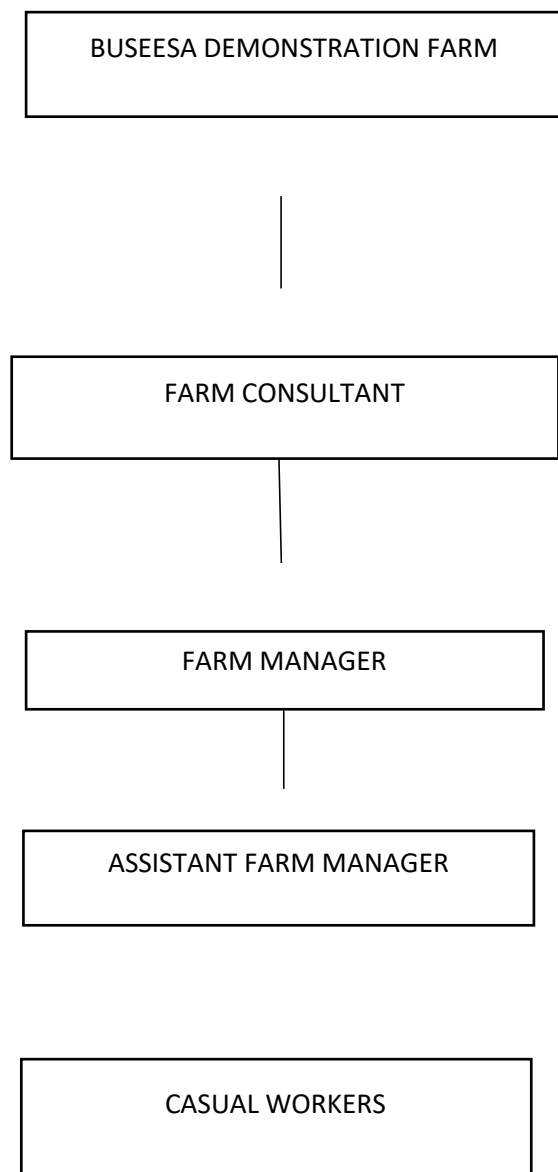
Providing affordable loans to community members to support small businesses.

Lobbying for additional funding to expand the reach of SACCOs and serve more people in the community.

1.5 Vision of BCDO

A community with better health and steady income at the household level.

BCDO ORGANISATION STRACTURE(BUDEFA IN PARTICULAR)



2.3 Roles of the Host Farm, Immediate Supervisor, or Farm Manager

- The roles of the host farm and the immediate supervisor (farm manager) during the field attachment included:
- Guiding the process of making a work plan, goal setting, resource allocation, and stakeholder involvement.
- Providing orientation to ensure proper understanding of the organizational staff and leadership structure.
- Assigning responsibilities while ensuring proper task prioritization.
- Conducting regular assessments of the student's performance.

2.5 Roles of the Student

- As a field attachment student, the following roles and responsibilities were undertaken:
- Abiding by the rules and regulations set by the agency and supervisor.
- Performing duties and tasks as assigned by the supervisor.
- Compiling data and preparing a comprehensive report at the end of the field attachment period.
- Attending office sessions and participating in organizing office and farm activities.

2.4 Role of the University Supervisor / African Rural University (ARU)

- The University Supervisor, representing African Rural University (ARU), played a key role in ensuring the academic integrity and success of the field attachment. Their responsibilities included:
- Monitoring the presence, participation, and conduct of the student at the place of deployment.
- Reporting to the University on the progress, challenges, and performance of the student during the attachment.
- Providing guidance and support to the student on how to compile and write the field attachment report in accordance with academic standards.

Chapter Two: Presentation Of Results/Activities

2.0 Introduction

This chapter presents the results and activities conducted during the field attachment, covering the key areas of crop production, animal production, fish farming, and environmental conservation. It also outlines the personal contributions made by the student, the lessons learned, and challenges encountered. The data was collected through several methods, including interviewing, documentation, observation, exposure to field realities, hands-on practical work, lectures, and the visionary approach.

2.1 Animal Production

During the field attachment, several activities were carried out in the animal production section, focusing on poultry, goats, piggery, and cattle units. The following section discusses the major tasks and processes experienced.

2.1.1 Poultry Section

Buseesa Demonstration Farm specializes in layer birds. During the field attachment period, the student worked with approximately 3,000 layer birds housed in six units (Units A–F). The main activities conducted included feed formulation, mixing, and feeding.

Feed Formulation, Mixing, and Feeding

Feed formulation refers to the process of selecting and combining different feed ingredients to create a balanced diet that meets the nutritional needs of livestock. The goal is to provide the correct proportions of nutrients such as proteins, carbohydrates, fats, vitamins, and minerals that support the birds' growth, reproduction, and productivity.

Under the guidance of the farm manager, the student formulated 858 kilograms of layers' mash using the following ingredients: 100 kg of broken maize, 500 kg of maize bran, 160 kg of concentrates, 80 kg of lime, 4 sachets of salt, 6 sachets of layer premix, 2 kg of Proto Cure 3 kg of egg booster (Egg Plus)

Each ingredient served specific purposes:

Broken maize: Provided high energy due to its carbohydrate content.

Maize bran: Supplied fiber and energy, aiding digestion.

Concentrates: Offered protein and essential amino acids vital for egg production.

Lime: Supplied calcium for eggshell and bone strength.

Salt: Delivered essential electrolytes (sodium and chloride) for nerve and osmotic balance.

Layer premix: Contributed essential vitamins and minerals for productivity and health.

Proto Cure: Acted as a supplement to treat protozoan infections.

Egg booster (Egg Plus): Improved egg quality and reproductive function.

After mixing the feed, feeding was conducted three times a day—morning, afternoon, and evening—ensuring continuous nutrition for the layer birds.



Figure 1: Apprentice taking measurements during feed formulation and feeding birds.

2.1.2 Vaccination of Birds Against Newcastle and Infectious Bronchitis Diseases

Vaccination in poultry is the process of introducing a vaccine into the bird's body to protect it against specific infectious diseases. At Buseesa Demonstration Farm (BUDEFA),

approximately 3,000 layer birds were vaccinated against **Newcastle disease (ND)** and **Infectious Bronchitis (IB)**.

Newcastle disease is a highly contagious viral infection caused by a paramyxovirus. Clinical signs include sneezing, gasping, nasal discharge, coughing, greenish watery diarrhea, depression, muscular tremors, droopy wings, circling, paralysis, reduced egg production, thin-shelled eggs, and swelling around the eyes and neck.

Infectious bronchitis is a contagious respiratory disease in chickens caused by a coronavirus. It is characterized by respiratory symptoms such as sneezing, coughing, and nasal discharge. Transmission occurs through direct contact and airborne particles.

During the vaccination exercise, every 1,000 doses of Newcastle/Infectious Bronchitis (NC/IB) vaccine were reconstituted with 20 liters of clean water and administered through drinking water to ensure wide coverage among the birds.



Figure 2. The apprentice reconstituting the NC/IB vaccine and administering it via drinking water.

2.1.3 Litter Management

Poultry litter refers to the bedding material used in poultry houses to absorb waste and provide comfort for the birds. Proper litter management plays a crucial role in improving flock health,

minimizing disease risks, and enhancing air quality within the poultry house. Common litter materials include wood shavings, coffee husks, and rice hulls.

At Buseesa Community Development Organization (BCDO), coffee husks were used as the primary litter material. A case of bumblefoot disease (commonly associated with poor litter management) was observed in Unit F, prompting a thorough review and improvement of litter practices.

Key litter management practices implemented included:

Regular inspection of litter conditions, particularly checking for excess moisture, odor, and caking.

Adjusting the ventilation system to maintain proper airflow and reduce moisture and ammonia buildup.

Frequent removal of soiled, wet litter and replacement with dry, fresh material.

Turning the litter regularly to improve aeration, prevent caking, and reduce the buildup of pathogens.

These practices ensured a healthier environment for the poultry and minimized risks associated with poor litter conditions.



Figure 3. The Apprentice Taking Note Of Bumpy Foot Disease And Later Digging Out Moist And Caked Poultry Litter.

2.1.4 Stock Taking and Physical Counting of Livestock and Poultry

Stock taking refers to the process of physically counting, recording, and valuing all tangible items or assets on a farm at a specific point in time. This practice is important for effective farm management because it allows the farmer to assess current inventory, identify losses or damages, and make informed decisions regarding restocking, sales, or replacements.

At Buseesa Demonstration Farm (BUDEFa), stock taking was conducted to update animal records, especially following the sale and death of some animals. During the physical count, the following livestock were recorded:

Animal	Number	Percentage (%)
Goats	90	3.3%
Pigs	34	1.2%
Cow	1	0.04%
Rabbits	18	0.66%
Layer Birds	2553	94.8%

Animal	Number	Percentage (%)
Total	2696	100%

Table 1. the number of livestock present after a physical count.



Figure 4. The apprentice physically counting poultry with a colleague.

2.1.5 Egg Collection and Egg Record-Keeping

Egg collection involves gathering eggs laid by poultry from nests or cages at regular intervals throughout the day. This process helps to maintain egg hygiene, minimize breakages, and reduce incidences of egg-eating among hens. At Buseesa Demonstration Farm, eggs were collected **two to three times daily** to ensure high quality and cleanliness.

Egg record-keeping is the documentation of data related to egg production. Records typically include the date, total number of eggs collected, as well as the number of cracked, damaged, or misshaped eggs. These records play a crucial role in monitoring the productivity of layers and identifying potential problems related to feeding, health, or management.

During Field Attachment Two, the apprentice was assigned the responsibility of collecting eggs and maintaining proper production records. This exercise was particularly important because BUDEFA focuses primarily on egg production as a core income-generating activity.



Figure 5. The apprentice collecting eggs and recording the quantities collected during the first round of egg collection.

2.1.6 Drug Administration in the Cattle Section

Drug administration in cattle farming refers to the process of delivering medications and vaccines to cattle in order to treat, control, or prevent diseases and to promote animal health and productivity. Proper drug administration requires accurate dosage, appropriate routes of administration, and supervision by knowledgeable personnel.

At Buseesa Demonstration Farm (BUDEFA), there is one dairy cow. During the field attachment, the student coincided with the scheduled treatment period for this animal. Under the supervision of the farm manager, the correct drug doses were measured based on the estimated body weight of the cow.

The following drugs were administered:

Drug	Dosage	Route of Administration	Purpose
Ivermectin	10 mL	Subcutaneous,S/C	Treatment of helminthiasis
Oxytetracycline 10%	20 mL	Intramuscular,IM	Treatment of secondary bacterial infections

Drug	Dosage	Route of Administration	Purpose
Multivitamin Injection	30 mL	Intramuscular,IM	Boosts immunity, treats vitamin deficiencies, and aids recovery

TABLE 2.THE SCHEDULED TREATMENT PLAN FOR THE COW AT THE FARM.

This activity provided hands-on experience in livestock healthcare practices, enhanced the student's understanding of animal pharmacology, and emphasized the importance of accurate drug handling and administration techniques in maintaining cattle health.



Figure 6. The apprentice measuring the correct drug dose and administering it to the cow via injection.

2.1.7 Postmortem Inspection in the Goat Section

Postmortem inspection refers to the examination of an animal's body after death to detect signs of disease or abnormalities. This practice is critical for ensuring food safety, understanding causes of death, and preventing similar cases in the future (OIE, 2023).

At Buseesa Demonstration Farm (BUDEFA), a goat suddenly died, and under the supervision of the farm consultant, a postmortem was conducted. The internal organs—including the liver, lungs, heart, intestines, and kidneys—were exposed and thoroughly examined.

Postmortem Findings

Intestinal damage: Blocked and ruptured intestines that appeared red, swollen, and irritated due to worm attachment and movement.

Presence of parasites: White, ribbon-like tapeworms several centimeters long were found in the small intestines.

Pale mucous membranes: Indicating anemia.

Signs of dehydration: Dry internal tissues.

Conclusion

The goat died from a severe tapeworm infestation, which caused anemia, intestinal blockage, and dehydration. This pointed to weaknesses in parasite control and poor grazing or feeding management.

Recommendations

Immediate deworming of all goats using **Albendazole 10%**.

Deworming of kids starting at **1 month old**, and then **every three months** as guided by Dr. Kasozi, the farm consultant.

Rotation of grazing areas to reduce reinfestation risks.

Provision of **balanced feed** and **mineral supplements** to support immunity.

Conducting **regular fecal tests** to monitor parasite levels.

Educating farm workers on **hygiene** and **parasite control** practices.



Figure 7. The apprentice conducting a postmortem to determine the cause of death.

2.1.8 Management of Orf Disease in Goats

Orf is a contagious viral skin disease caused by the parapoxvirus. It spreads easily through direct contact or contaminated surfaces, especially when goats have open wounds (FAO, 2022).

At BUDEFA, four goats were found to have Orf, and the following steps were taken:

Procedure

Cleaning of lesions: Affected areas were wiped using towels moistened with surgical spirit.

Injection: Oxytetracycline 10% and a combination of Penicillin-Streptomycin were administered to prevent secondary infections.

Supportive care: Multivitamin injections were given to enhance immunity and aid recovery. Soft feeds were provided to minimize feeding discomfort.

Prevention Measures

Maintaining **hygiene** in goat shelters and feeding areas.

Avoiding overcrowding.

Prompt management of skin injuries

Maintain good hygiene in the goats shade and feeding areas.

Avoid overcrowding and manage any skin wounds quickly.



Figure 8. The apprentice learning the Orf disease management protocol from the farm manager

2.1.9 Management of Dystocia in the Goat Unit

Dystocia is a difficult or obstructed labor in goats and is considered a veterinary emergency. Prompt intervention is necessary to prevent the death of both the doe and the kid (Veterinary Manual, 2024).

At BUDEFa, a goat presented signs of dystocia including:

Abnormal fetal positioning.

Prolonged labor (over 30 minutes).

Weak uterine contractions.

Management Steps

Cleaning the perineal area.

Lubricating the birth canal with soapy water.

Identifying **malpresentation** (one forelimb forward).

Performing **manual correction** by gently repositioning the kid using slow, careful movements to ensure safety for both the doe and the kid.



Figure 9. The apprentice assisting in the management of dystocia in a goat.

2.2. Activities Done at the Piggery Section

At the piggery section, I participated in several farm activities including repair of structures, preparation of Indigenous Microorganism (IMO) structures, drug administration, and routine feeding.

2.2.1 Repair of Structures

Repair of structures in pig farming refers to the maintenance and fixing of broken or damaged parts of pig housing and related facilities to ensure a safe, clean, and functional environment for the pigs.

At BUDEFa, we mainly repaired sty walls, gates, feeding and watering troughs, roofs, and drainage systems. This was important for:

Protecting pigs from injury and escape

Maintaining good hygiene and disease control

Reducing feed and water wastage

Providing comfort for pigs

Extending the lifespan of farm facilities



Figure 10. The apprentice nailing wood into a broken pig sty and laying bricks on a broken feed trough.

2.2.2 Preparation of IMO – Indigenous Microorganism Structure

An IMO structure is a constructed unit designed to grow locally-sourced beneficial microbes for use in pig houses to manage waste and improve hygiene. The IMO spray is applied to deep litter bedding to compost pig waste naturally and control odors.

At BUDEFa, we:

Filled the pig sty floors with sawdust

Regularly sprinkled IMO spray on the litter

Local Preparation Steps:

Boil rice and mix with sugar and maize bran

Place mixture in an airtight bag and bury underground for seven days

Mix contents with water in a drum and seal for another seven days

Apply by sprinkling on piggery litter

Benefits:

Reduced odor and fly problems

Improved hygiene

Cost-effective and environmentally friendly

2.2.3 Feeding at the Piggery Section

Feeding involved providing pigs with the right type and amount of food to promote health and production. Pigs were fed 2–3 times daily on:

Concentrates: Nutrient-rich feeds providing energy, proteins, vitamins, and minerals

Grass: Aids digestion, provides vitamins (A & C) and minerals (calcium, iron), and lowers feed costs



Figure 11. The apprentice feeding pigs.

2.3 Activities Under Crop Production

2.3.1 Vegetable Production

Vegetable growing involves planting, managing, and harvesting vegetables for food and income. I managed three backyard gardens (collard greens, nakati, and onions). The major practices were:

Weeding: Removed unwanted plants to reduce competition, pests, and improve plant health

Mulching: Covered soil with dry grass to retain moisture, suppress weeds, regulate temperature, and prevent erosion

Watering: Provided water regularly to prevent dryness, aid nutrient uptake, and support yield

Pest Control: Applied *Bacillus thuringiensis* (Bt), rabbit urine mixed with garlic, and used fencing

plants from being eaten or destroyed, improve vegetable quality and appearance, prevent spread of diseases carried by pests and increase harvest and income.





Figure 12. Vegetable management practices at different stages

2.3.2 .Banana Management at the Plantation

Banana management ensures healthy growth and productivity. Activities included:

Weeding: Removed unwanted plants to reduce competition and pest habitats

Pruning: Removed old and diseased leaves to improve airflow and plant health

Desuckering: Removed excess shoots to concentrate nutrients on the main plant.

and work in the plantation.

and water for the main productive plant,encouraging strong and healthy growth of the selected sucker,improving banana bunch size and yield.



Figure.13 .In The Bannana Plantation During Pruning And Desuckering

2.3.3 Introduction and Use of a Natural Biopesticide and a Foliar Fertilizer at the Farm

A **biopesticide** is a natural pesticide made from living organisms (like bacteria, fungi, or viruses), or from plants and natural materials, used to control pests in a safe and eco-friendly way.

At BUDEFA, we made *Bt* (*Bacillus thuringiensis*)—a bacterium used to kill caterpillars and some insect larvae—following the steps below:

Requirements:

Bt starter culture (from decomposed cow dung)

100g carbohydrate source (sugarcane molasses)

1 liter clean water

Clean plastic container with lid

Cotton cloth (for filtering)

Stick for mixing

Dark place for fermentation

Preparation Process:

Prepared the food base using 100g of sugarcane molasses.

Added the Bt culture (microbial starter) from decomposed dung and mixed it well with water.

Fermented the mixture in a loosely covered plastic container placed in a dark, warm place for 3–5 days to allow bacteria to multiply.

Filtered the mixture using a cotton cloth to remove solids.

Stored the liquid as a ready-to-use Bt biopesticide.

Used immediately and stored the rest in a refrigerator for up to one week.

Applied by mixing 100 ml of Bt solution in 10 liters of water and spraying early morning or late evening on *sukuma wiki* plants when caterpillars are active.

An **organic foliar fertilizer** is a liquid plant feed made from natural materials like plants, animal waste, or compost, sprayed on leaves to supply nutrients.

At BUDEFA, we made a foliar fertilizer using **rabbit urine** and sprayed it on vegetables. Rabbit urine is rich in nitrogen, potassium, and phosphorus, and it helps plants grow faster, improves leaf color, and boosts crop yield naturally.

Steps Taken:

Collected fresh rabbit urine and placed it in a clean container.

Fermented the urine for 7 days in a tightly closed container to reduce smell and increase nutrient availability.

Diluted the urine in a 1:5 ratio with clean water.

Stirred well and added small amounts of wood ash (for potassium) and garlic extract (as a pest repellent).

Sprayed the mixture on plant leaves using a watering can.

Applied mixture on plant leaves as foliar spray using a watering can.



Figure 14. Preparation and use of a biopesticide (Bt) and a foliar fertilizer (rabbit urine) at different stages.

2.5. Four Farm Meetings Attended

Farm meetings are organized gatherings where skilled and unskilled farm workers, community members, or agricultural experts meet to discuss and manage farm operations. These meetings serve to share information, make decisions, solve problems, and plan activities.

At BUDEFA, the following types of meetings were held:

Planning Meetings: To organize and schedule farm activities like planting, harvesting, spraying, and feeding. Roles were allocated.

Training Meetings: Farm workers were trained by managers and experts such as Dr. Justus Kasozi.

Staff Meetings: Weekly operational reviews were held to track activities and share challenges—e.g., staff briefings every Wednesday afternoon and Friday evening.

Emergency Meetings: To respond to sudden events, such as unexpected visitors.

Evaluation/Review Meetings: Used to assess progress, review targets and productivity.



Figure 15.The apprentice participating in a review meeting and a planning meeting at the farm.

2.6 .Five Farm Lectures Attended

Farm lectures are structured learning sessions on a farm designed to increase knowledge and practical skills in agriculture. These are usually conducted by experts.

At BUDEFA, our lecturers were Dr. Justus Kasozi **and** Mr. Tugonzaruhanga Joseph, who taught us livestock production and management practices in:Poultry,Goats,Cattle,Piggery and Fish farming



Figure 16. **The apprentice attending a fish farming lecture and poultry production lecture.**

2.7 Waste Management

Waste management is the process of collecting, transporting, treating, and disposing of waste materials in a safe and responsible way. It also includes efforts to reduce, reuse, and recycle waste to protect the environment and human health.

At BUDEFA, we managed waste in two main ways: sorting and composting.

Sorting involved separating garbage into two categories:

Biodegradable waste (for composting), and

Non-biodegradable waste (for incineration, reusing, or recycling).

Composting was done by collecting **green materials** such as vegetable and fruit peels, fresh grass clippings, banana peelings, banana leaves, chopped grass remains, and chicken manure. These are rich in nitrogen and help speed up decomposition.

We also gathered brown materials, including dry leaves, sawdust, and bean residues. These materials are rich in carbon and help prevent bad smells by adding structure to the compost.

The green and brown materials were systematically placed into a composting pit and allowed to decompose, creating nutrient-rich compost.

The benefits of sorting and composting included; Reducing waste volume, Improving soil fertility, preventing environmental pollution, supporting sustainable farming and reducing greenhouse gas emissions, especially methane from landfill waste.

2.7. Farm Visionary Planning Enhanced

Farm visionary planning is a participatory and creative process where farmers imagine their ideal future, assess their current reality, and map out actionable steps to reach their goals.

At BUDEFA, we found a substandard vision that lacked specificity and a clear timeline. As African Rural University students, we facilitated a visionary approach session that resulted in a five-year farm vision:

"A farm with 20,000 layers, 4 dairy cows, 5 nearby water sources, a grass chopper, and a new tricycle at Buseesa trading centre by June 2030."

A Structural Tension Chart (STC) was also developed, showing: the Vision, the Current Reality, Action Steps and Responsible Persons.



Figure 17. The apprentice facilitating a session on visionary planning at the farm.

Chapter Three

3.0 Analysis and Evaluation

3.1 Evaluation of the Host Farm

BUDEFA Farm provided a valuable learning environment that supported skill development, mentorship, and exposure to real farming conditions. It created a professional setting for students in the following ways:

Students were given hands-on training and rotated through different departments such as crops, livestock, record-keeping, and fish farming.

They were supervised by qualified and experienced staff who provided guidance and regular feedback.

Adequate tools, equipment, and safety measures were available. A health facility was accessible for those who fell sick.

The farm maintained records of student attendance and activities, and logbooks were checked weekly.

Learning at BUDEFA aligned with the course requirements and objectives of the students' study program.

Students were allowed to contribute new ideas and innovations (e.g., biopesticide making, composting, visionary approach). Critical thinking and application of knowledge were encouraged.

The environment inspired many students to pursue farming and agribusiness in the future.

However, the farm did not provide meals or accommodation, which posed a challenge to some students.

3.2 Lessons Learnt

- Task prioritization is key to development.
- Goal setting helps achieve one's vision.
- Some farm waste can be recycled usefully.
- Stakeholder involvement and teamwork are essential for success.
- Physical stamina/endurance is necessary for farm work.
- Knowledge of differential diagnosis in livestock diseases is vital.
- Poor record-keeping can lead to losses.
- Goal setting enhances focus and direction.
- Intensive care is necessary for vegetable production.

3.3 Challenges Faced

- Unreliable transport to Kajuma Farm Branch: The tricycle sometimes broke down. This was mitigated by using farm motorcycles as an alternative.
- Limited time (one-month attachment): The short period was managed by prioritizing tasks and working overtime.
- Harsh weather conditions (excessive rainfall): The apprentice mitigated this by purchasing an umbrella.
- Busy political schedule: This affected community engagement. To adapt, sessions were held with the farm community.
- Absence of the farm consultant on some days: This was addressed by creating an online communication platform (WhatsApp).

Chapter Four

4.1 Conclusions

My field attachment experience at BUDEFA was highly valuable. It gave me the opportunity to gain practical skills and apply agricultural knowledge in real situations.

I acquired skills in livestock production and management, such as disease control, diagnosis and treatment, dystocia management, and postmortem inspection. I also learned crop pest and disease control, intensive vegetable care, and organic farming practices. These skills will contribute significantly to my personal and professional growth.

4.2 Recommendations

To BUDEFA:

- Purchase a new tricycle to improve transport reliability.
- Focus more on the farm vision to achieve long-term goals.
- Acquire more dairy cows for better resource utilization.

To ARU:

- The university should issue logbooks and report templates early to support timely data collection and reporting.

References

- Dagoudo, B. A., Ssekyewa, C., & Tovignan, S. D. (2024, August). *Organic fertilizers and biopesticides: Eco innovations, circular economy, and agribusiness developed by organic farmers in Uganda*. IntechOpen. <https://doi.org/10.5772/intechopen.1005854>
- Ministry of Agriculture, Animal Industry & Fisheries. (n.d.). *Sanitary and phytosanitary certification system for meat export from Uganda: Standards and procedures including ante mortem and post mortem inspection*. Kampala, Uganda. Retrieved July 2025, from <https://www.agriculture.go.ug/sanitary-and-phytosanitary-certification-system-for-meat-export-from-uganda>
- Nalubwama, S. M., Mugisha, A., & Vaarst, M. (2011). Organic livestock production in Uganda: Potentials, challenges and prospects. *Tropical Animal Health and Production*, 43(4), 749–757. <https://doi.org/10.1007/s11250-011-9780-x>
- Senyonga, J. K. (2025?). Current status and potential opportunities for Uganda’s pig subsector: A review. *Science and Development Journal*. ILRIjournals.ug.edu.gh+1iarconsortium.org+1
- Uganda Rural Development and Training Programme. (2011, February). *URDT’s model for sustainable development: Visionary approach and systems thinking*. Kibaale, Uganda.

Appendix

Structural Tension Chart (STC)

Vision: An apprentice with knowledge and skills in all farm projects, and with an examinable report by 11th July 2025.

Accountables	Action Steps	Due Date
Apprentice and faculty mentor	Coming back from field, writing and presenting the report	5th–11th July 2025
Apprentice and farm workers	Pasture establishment and management, banana production and biogas activities	2nd–4th July 2025
Apprentice, farm workers, and fish farming technician	Pig production, stocktaking, and fish farming lecture	24th June–1st July 2025
Farm staff and apprentice	Hosting visitors, goat management, farm meetings, making organic chemicals, revisiting farm vision	13th–23rd June
Apprentice and farm workers	Poultry vaccination, sorting and composting biodegradable waste	12th July 2025
Apprentice and farm workers	Cattle disease management, vegetable garden care, nursery bed establishment	8th–11th June
Apprentice, executive director, administrator, and farm staff	Orientation and induction	6th June 2025
Faculty mentor, field mentor, and apprentice	Arrival at the farm	5th June 2025

Current Reality:

Farm and workers are available

Faculty mentor and field mentor are available

Apprentice lacks practical knowledge and skill

Flip charts, markers, overalls, gumboots, gloves are available

Time is available (one-month period)

Table 3.the stractural tension chart for the apprentice for the one month period