



**Report on Field Attachment one Conducted in Buseesa Community Development
Organization, Buseesa Village, Matala Sub-County, Mid-Western Uganda, Kibaale District**

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22/ARU/BSSA/003

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

DECLARATION

I, Kajumba Monica, hereby declare that all the content and findings presented in this report are accurate to the best of my knowledge and based on the experience I acquired during my field attachment. This report has been compiled solely by me and has never been submitted to any university for academic purposes.

Signature:

.....*Kajumba Monica*.....

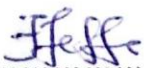
Date:

.....18/7/2025.....

Kajumba Monica

APPROVAL

We here by certify that this field attachment one report of Kajumba Monica that was conducted at Buseesa Community Development Organization (BCDO) Matala Sub-County, Kibaale District, it has been prepared under our guidance, supervision and submitted with our approval as student's supervisors.

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Table of Contents

DECLARATION	Error! Bookmark not defined.
APPROVAL.....	Error! Bookmark not defined.
DEDICATION	ii
ACKNOWLEDGEMENT	iii
LIST OF FIGURES	vii
LIST OF APPENDICES.....	ix
ABSTRACT	x
LIST OF ABBREVIATIONS	xi
CHAPTER 1: INTRODUCTION.....	1
1.0 General introduction	1
1.1. Background of field attachment.....	1
1.2. Objectives of field attachment	1
1.3. Background of BCDO	1
1.3.1. BCDO Vision.....	2
1.3.2. BCDO Mission.	2
1.3.3. Objectives of BCDO	2
1.3.5. core activities	3
1.3.6. BCDO Organization Structures and Department.	4
1.4. Roles Of Host Farm, Student and University.....	4
Roles of host farm:	4
Roles of student:.....	5
Roles of the university:	5
CHAPTER 2: PRESENTATION OF ACTIVITIES	6
2.1. Presentation of activities.....	6
2.1.1: Attending orientation meeting.....	6
POULTRY UNIT	7
2.1.2: Formulation of feeds and feeding layers.....	7

2.1.3: Vaccination in poultry layers.....	8
2.1.5: Adjusting tarpaulin halfway on poultry house to provide light	10
2.1.6: Collecting and Selling Eggs	11
2.1.7: Treating Bumblefoot Infection in Poultry	12
PIGGERY UNIT	13
2.1.8: Making, using and Management of IMO	13
2.1.9: vaccinating pigs Against bacterial infections using oxytetracycline.....	14
2.1.10: Feeding of pigs at Buseesa Farm.	14
2.1.11: Mitigation of flooding in pig sties due to rainfall.	15
GOATS UNIT	16
2.1.12: Attending Goat Lecture	16
2.1.13: Cleaning the Goat Floor	17
2.1.14: Treating Orf in young goats.	18
2.1.15: Vaccination and deworming goats.	19
DAIRY COW MANAGEMENT	19
Introduction	19
2.1.16: Spraying Cattle with Insecticide	20
2.1.17: Cleaning the Kraal.....	21
2.1.18: Feeding Chopped Grass to Animals	21
CROP PRODUCTION.	22
Introduction	22
2.1.19: Making a Biopesticide (Bt)	22
2.1.20: De-suckering in Banana	23
2.1.21: Pruning and Weeding Banana Plantation	24
2.1.22: Mixing Charcoal Dust in Sack Garden	25
2.1.23: Setting Up a Nursery Bed and Transplanting Onions	26
2.1.24: Watering of the nursery bed and the seedlings transplanted	27

2.1.25: Applying Foliar Fertilizer from Rabbit Urine to Vegetables.....	27
2.1.26: Composting	28
2.1.27: Planting Super Napier Grass	29
2.1.28: Conflict Resolution Between Internees and Administrator.....	29
2.1.29: BCDO farm Meetings Attended.....	30
2.1.30: Revisiting and Formulating Farm Vision	31
2.1.31: Conducting Community Action Planning (CAP) to Formulate Research Topic	32
FISH FARMING.....	33
CHAPTER 3: ANALYSIS AND EVALUATION	34
3.0 Evaluation of Host Farm (BCDO – Buseesa Farm)	34
3.1.1. Knowledge and skills acquired.	34
3.1.2 Special Personal Contributions to the Organization	35
3.2.0. Challenges Faced	36
CHAPTER 4: CONCLUSION AND RECOMMENDATIONS	37
4.1. Conclusion	37
4.2.2 Recommendations to ARU	37
REFERENCES	38
APPENDICES.....	39

LIST OF FIGURES

Figure 1. The apprentice attending orientation meeting led by Director.....	6
Figure 2. The apprentice feeding and formulating layer feeds.....	8
Figure 3. The apprentice drenching layers on vaccine dose.....	9
Figure 4. Debeaking and spraying surgical spirit on the pecked layer.....	10
Figure 5. The apprentice adjusting the tarpaulin on the poultry unit	11
Figure 6. Collecting and selling of eggs by apprentice	12
Figure 7. The apprentice managing bumble foot infection	12
Figure 8. The application of IMO by apprentice	13
Figure 9. Administering pig oxy 20% by the apprentice.....	14
Figure 10. Feeding pigs on maize brand.....	15
Figure 11. The apprentice mitigating floods on the piggery structure.....	15
Figure 12. The Boer and Mubende goat breed kept at BCDO	16
Figure 13. The apprentice attending goat lecture	17
Figure 14. The apprentice cleaning under the goat house	18
Figure 15. Treating Orf and secondary bacterial infections	18
Figure 16. Deworming and injecting goats against worms and skin infection.....	19
Figure 17. The Friesian breed reared at BCDO.....	20
Figure 18. Controlling external parasites by the apprentice.....	21
Figure 19. Biosecurity standardization in the kraal.....	21
Figure 20. Chopping and feeding the dairy cow the fresh grass	22
Figure 21. The apprentice identifying pests on vegetables	23
Figure 22. The apprentice making biopesticide.....	23
Figure 23. De-suckering in banana plantation by the apprentice	24
Figure 24. Pruning and removing old harvested stems in banana plantation by apprentice	25
Figure 25. Mixing charcoal dust in the sack gardens	26
Figure 26. The apprentice establishing vegetables from nursery bed up to transplanting onto the cone garden.....	26
Figure 27. Watering in the backyard garden.....	27
Figure 28. Applying foliar fertilizer from rabbit urine on the leafy vegetables	28
Figure 29. Waste management by the apprentice at the farm.....	28
Figure 30. Establishing animal pasture by the apprentice	29

Figure 31. Attending the meeting to resolve conflicts.....	30
Figure 32. Attending the meeting led by the farm consultant	31
Figure 33. The apprentice attending farm meeting.....	31
Figure 34. The apprentice facilitating the session on Visionary Planning	32
Figure 35. The apprentice conducting CAP with community members	33
Figure 36. Fish farming and feeding lecture led by the Joseph.....	33

LIST OF APPENDICES

APPENDICES	39
Appendix i) workplan.....	39
Appendix ii. URDT visitors at BCDO.....	40
Appendix (iii). Number of livestock at BCDO farm in a table form.....	40
Appendix. (iv). Map Of Kibaale District Showing the Location of Buseesa Community Development Organization in Matale Sub-County.....	41

ABSTRACT

In fulfillment of the 40% practical component aimed at preparing students for real-life experiences, I undertook a one-month field attachment from June 5th to July 5th, 2025, at Busesa Community Development Organization (BCDO), located in Busesa Trading Centre, Matala Sub-County, Kibaale District, Mid-western Uganda. The objectives were to gain practical experience in sustainable crop and animal production, apply creative and innovative approaches in real farm environments, and develop soft skills such as teamwork, leadership, and professional communication. During the attachment, I worked closely with the farm manager, farm workers, the Epicenter Manager, and community members using methods such as the visionary approach, observation, and interviews. Skills acquired included repairing farm structures, vegetable growing, fish farming, piggery, goat and poultry management, rabbit rearing, biogas system management, conflict resolution, and pasture establishment. Key outcomes include improved sanitation through waste management, enhanced community health via backyard gardens, identification and treatment of bamboo foot infection in poultry, restored harmony among farm workers, improved animal nutrition through super Napier planting, reduced flooding through water inlet reinforcement, improved soil fertility using organic fertilizers, pest control using biopesticides, and economic empowerment through the promotion of creative, visionary approaches. The dynamic nature of the farm environment also fostered the development of key soft skills such as teamwork, leadership, and communication. Despite some challenges, the attachment enhanced both technical competence and professional growth. Recommendations include improving communication structures and modernizing farm tools at the host farm, as well as encouraging greater collaboration between the university and host institutions to align expectations and promote sustainable practices.

LIST OF ABBREVIATIONS

VA	Visionary Approach
BCDO	Buseesa Community Development Organisation
ARU	African Rural University.
FM	Farm Manager
IMO	Indigenous Micro Organisms.
EM	Epicenter Manager
IB	Infectious Bronchitis
BDF	Buseesa Demonstration Farm.
KCSON	Kitara Civil Society Organisation network.
SACCO	Savings and Credit Cooperative Organisation.

CHAPTER 1: INTRODUCTION

1.0 General introduction

This chapter explains the background of the field attachment, purpose of field attachment, objectives of field attachment and the background of Buseesa Community Development Organization, mission, vision, core activities, organisation structure and departments.

1.1. Background of field attachment

In a bid to fulfil the 40% practical and preparation for students in real life experience, in the last semester of the second year, students who successfully complete four Semesters are sent to the field during which they are introduced to various farms to learn practical skills in the modern technologies, extension work, program development and farm management at different levels. The learners are expected to apply the acquired knowledge in project related activities as they take part in all activities of the farm where they are attached. Outreach will acquaint learners with interpersonal relationship with the farming communities and rural sociological principles and approaches. This is done in the fulfilment of ARU's method of teaching where 60% is theory and 40% Practical. My 40% was done at Buseesa Community Development Organization (BCDO) which is located in Buseesa Trading Centre, Matale Sub- County, Kibaale District, Mid-Western Uganda along Kakumiro-Kibaale road for 4 weeks (1month). The field attachment one allowed us BSSA students in second semester of second year to be part of the farm staff where we were deployed to do 40% practical and also the farms to learn from the students and vice versa. After the field attachment exercise, each student will produce an examinable report and one copy of the report is sent back to the agency institutions.

1.2. Objectives of field attachment

1. To gain practical experience in sustainable crop and animal production practices
2. To apply creative and innovative approaches in real farm environments.
3. To develop soft skills like teamwork, leadership, and professional communication in a farm setting.
4. To enable students, acquire good work habits.

1.3. Background of BCDO

BCDO is located In Buseesa Trading Centre, Matale Sub County, Kibaale District, Mid-Western Uganda along Kakumiro-Kibaale road. It was formed in 2014 by the Board of Directors after

realizing that people of Kibaale, Matala in particular were disproportionately affected by poverty, poor health and lack of economic opportunities. BCDO is duly incorporated as a company limited by guarantee and not having a shared capital according to the law of Uganda and therefore it's not for profit development organization.

The work of BCDO has been over the years generating outstanding positive impacts in the lives of many poor people through implementing projects benefiting a few households. It has evolved into multidisciplinary and multi sectoral programmes and projects transforming the lives of a wide range of communities. Buseesa Community Development Organization's work is mainly focused in health, agriculture, water and sanitation, livestock, fisheries, SACCO.

Currently BCDO operates in Matala Sub-County and the neighbouring sub -counties of Nyamarwa, Kyebando, Kibaale Town Council targeting poor people, elderly, and people living in a miserable life.

BCDO has four branches of the farm located at Buseesa, Kajuma, Kibambura and Kakumiro. The enterprises include piggery, poultry, goats rearing, cattle rearing, fisheries, banana plantation, Rabbits rearing, fruits and vegetables growing.

1.3.1. BCDO Vision.

A transformed community with better health and steady income at house hold level.

1.3.2. BCDO Mission.

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

1.3.3. Objectives of BCDO

1. To promote community health programmes through provision of curative services, Immunization of children against immunizable diseases to promote child health, offering reproductive health services like antenatal, maternity, family planning and adolescent sex education, training of community health workers on nutrition, environmental sanitation and home management to equip their communities and prevent diseases.
2. To provide sustainable marketing services and linkages both at local and international market through Providing capacity building services to farmers & farmer organizations for

sustainable development, Provision of timely market information services to farmers, Linking members to business development services, small and medium enterprises.

3. To add value to farmers, produce through agro-processing services through Lobbying and advocating for investors in agro processing activities in collaboration with government, KCSO and other relevant organizations.
4. To enhance financial strength through fish farming through Construction of more fish ponds in different areas, Stocking of different fish species, Protection of fish ponds from predators and thieves, setting up new methods of fish farming like use of home constructed tanks, Community sensitization on the importance of fish farming.

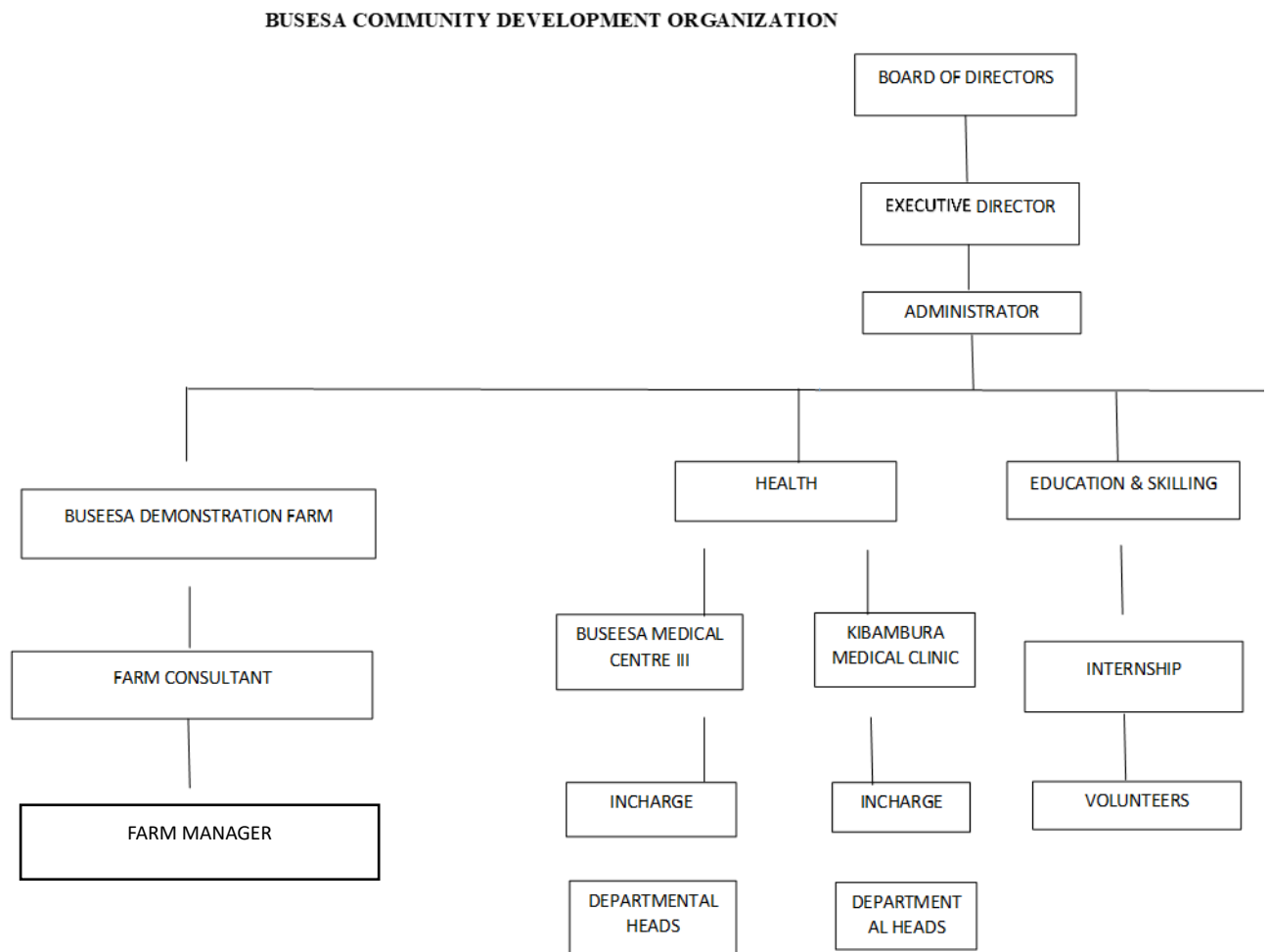
1.3.4. Targeted people by BCDO

Buseesa Community Development Organization (BCDO) is a development organization targeting the poor, less skilled people in household income projects and health.

1.3.5. core activities

Buseesa Community Development Organisation do activities like refrigerating drugs, community immunization, health school visits, piggery farming, poultry keeping, rabbit rearing, dairy farming, goat keeping, fruit growing, vegetable growing, banana plantation management, and mobile money transactions. Buseesa Community Development Organization is a self-sustaining organization which generates its income through income generating projects such as poultry, piggery, goat's rearing, cattle rearing, fish farming and vegetables growing.

1.3.6. BCDO Organization Structures and Department.



1.4. Roles Of Host Farm, Student and University.

Roles of host farm:

- Provide a learning environment by offering practical learning opportunities that align with agriculture for example crop production, livestock care and farm management.
- Assigning field supervisor to guide, monitor and evaluate student's daily activities conducted at the farm.
- Ensuring safety by providing safe working environment, access to basic amenities and fair treatment of students.
- Offer resources and feedback by allowing students to use farm tools, access information, participate in farming operation and assessing student's performance.

Roles of student:

- Applying theoretical knowledge into practical concepts and skills learned at ARU in a real farming setting.
- Being committed and responsible in reporting on time, complete assignment tasks and fully participation in farm activities.
- Documenting daily activities by recording daily tasks, observations and lessons learned in logbook.
- Seeking guidance and feedback by asking questions and taking initiatives to learn new skills and existing ones.
- Preparing a report at the end of attachment and presenting your learning experience and achievements.

Roles of the university:

- Preparing and orienting students by providing pre field training and guidance on what is expected during the attachment.
- Assigning the faculty mentor to check on student's progress and offer academic guidance during the field attachment.
- Evaluating the performance by reviewing logbook, field report and giving feedback to assess student learning that aligns with the curriculum.

CHAPTER 2: PRESENTATION OF ACTIVITIES

2.0: Introduction

This chapter contains; activities done in both crop and animal production in line with my objectives of the field attachment. The methods used were; interviewing, documentation, observation, exposure to field realities, hands on practical work, lectures and visionary approach.

2.1. Presentation of activities.

2.1.1: Attending orientation meeting.

On the first day at BCDO a comprehensive orientation meeting was conducted by Executive Director with all interneers, Administrator, Farm manager, Ass. Farm manager to guide us on what we are expected to do and tells us their core values like discipline, team work, respect and their rules and regulation during our attachment. The aim of this meeting was to guide on the core values of the farm and collect the initial data on various ongoing projects to be used in drawing the action plan for our activities in the field for a period of one month at BCDO Farm and it was successfully done as shown below.



Figure 1. The apprentice attending orientation meeting led by Director

POULTRY UNIT

Under poultry unit, I did a number of activities such as, vaccination of birds, feeding the birds, formulating layers feeds, observation of bamboo foot infection, debeaking, stock taking/ physical counting, collecting and selling eggs, and refilling drinkers with clean water mixed with amino vitamin to supply vitamin nutrients in the layers.

2.1.2: Formulation of feeds and feeding layers

Feed formulation is the process of selecting and combining various feed ingredients to create a balanced diet that meets the nutritional needs of livestock. Its main goal is to ensure that the animals receive appropriate levels of essential nutrients, including proteins, carbohydrates, fats, vitamins, and minerals. These nutrients are critical for the animals' growth, reproduction, health, and overall productivity. Effective feed formulation requires consideration of the specific nutritional requirements of the livestock, the nutrient content of available ingredients, cost-efficiency, and feed palatability to encourage proper consumption.

During my internship at Buseesa Farm, the apprentice was actively involved in formulating and preparing feed for layer birds. The feed mixture for old layers included 90 kg of broken maize, 90 kg of maize bran, 50 kg of concentrates, 32 kg of lime, 3 kg of calcium, 0.5 kg of layer premix (More egg Production), and 1 packet of toxin binder—totaling 268.5 kg. For growers, only 25 kg of limestone was used. Each ingredient had a specific nutritional role broken maize provided energy for digestive health, concentrates offered proteins and essential amino acids, lime and calcium were essential for strong eggshells and bone health, while the premix supplied necessary vitamins and minerals. The toxin binder was included to reduce the impact of harmful substances from poorly processed or stored feeds. Feed mixing was done effectively, and the feeding schedule was followed strictly in the morning, afternoon, and evening with each bird expected to consume 1200 grams daily

In relation to livestock nutrition and disease management as a course unit, I learned how to balance different feed components to meet the dietary needs of poultry while maintaining cost-effectiveness and ensuring feed safety. I also understood the importance of precision and consistency in feed mixing and the role of each ingredient in supporting the health and productivity

of layer birds. This experience enhanced my practical skills, deepened my understanding of poultry farming, and showed me the critical role that proper feeding plays in successful livestock management.



Figure 2. The apprentice feeding and formulating layer feeds

2.1.3: Vaccination in poultry layers

Vaccination of birds involves administering vaccines to protect them from specific diseases such as fowl pox, fowl typhoid, Newcastle disease, coccidiosis, and Gumboro. These diseases can significantly affect poultry health and productivity. For example, Newcastle disease causes respiratory issues, diarrhea, paralysis, and reduced egg production, while Gumboro affects the immune system, leading to weakness and depression in birds.

At Buseesa Farm, some birds showed symptoms of Newcastle disease and coccidiosis, including weakness, diarrhea, and reduced activeness. To address this, we administered Keproceryl through drenching using syringes and added Anticox to drinking water for 10-month-old layers and growers. The treatment was effective, and after three days, the birds showed improved health, increased activity, and better feeding behavior.

From this experience, I learned the importance of timely disease detection and the role of appropriate vaccination and medication in poultry health management. It taught me how to administer treatments properly and highlighted the impact of preventive care in reducing mortality and improving productivity in birds.



Figure 3. The apprentice drenching layers on vaccine dose

2.1.4: Debeaking of layers

Debeaking, also known as beak trimming, is a common poultry management practice that involves removing or shortening a portion of a bird's beak—typically the upper part. It is mainly done to reduce aggressive behaviors such as feather pecking, cannibalism, and fighting, especially in birds raised in confined systems. This helps promote animal welfare and reduce injuries and deaths caused by pecking among the flock.

During my field attachment at Buseesa Farm, I was assigned the task of debeaking a batch of 922 growers aged four months. The procedure was carried out using a debeaking machine for efficiency and accuracy. Some birds showed signs of injury from previous pecking, and these were immediately treated. Wounds were washed and disinfected, then sprayed with Oxytetravet spray to prevent infections. Injured birds were isolated to allow proper healing before being reintegrated into their poultry units once they had fully recovered.



Figure 4. Debeaking and spraying surgical spirit on the pecked layer

2.1.5: Adjusting tarpaulin halfway on poultry house to provide light

In poultry housing, tarpaulins are often used to shield birds from wind, rain, and cold. However, when kept fully down, they can block natural light and airflow, both of which are essential for poultry health. At Buseesa Demonstration Farm, I observed that the tarpaulin was initially fully lowered, which restricted light and ventilation. As part of my task, I raised the tarpaulin halfway to improve light penetration and air circulation. This adjustment helped enhance bird activeness, encouraged better feeding, and reduced stress and respiratory issues caused by poor ventilation.

The apprentice gained insight into the importance of proper housing conditions in poultry management. Light and fresh air not only support the birds' health but also improve productivity. Simple adjustments like tarpaulin positioning can significantly improve the poultry environment.



Figure 5, The apprentice adjusting the tarpaulin on the poultry unit

2.1.6: Collecting and Selling Eggs

During my field attachment at Buseesa Farm, the apprentice was tasked with collecting and selling eggs as part of daily operations. Egg collection was done in four shifts across different poultry units, with an average of 40 trays gathered each day. Each tray was sold at UGX 10,000, generating about UGX 400,000 daily for the farm. This activity served as a key source of daily income, directly supporting the farm's operational costs and overall financial stability.

In line with agribusiness course unit, which emphasizes the importance of integrating production with marketing to maximize profit. I practically applied agribusiness principles such as market analysis, and enterprise budgeting. By participating in egg sales, I learned how to determine product pricing, analyze daily sales revenue, and understand market demand. It also gave me insight into the importance of maintaining product quality and customer satisfaction in building a reliable market.



Figure 6. Collecting and selling of eggs by apprentice

2.1.7: Treating Bumblefoot Infection in Poultry

Bumblefoot, or pododermatitis, is a bacterial infection of the poultry footpad, commonly caused by poor litter management. At Buseesa Farm, the apprentice encountered 495 layers affected by this condition due to wet and compacted bedding. I treated the birds by soaking their feet in warm water, draining pus using a sterilized needle, and applying antibiotics to the wounds. To prevent further cases, we improved litter hygiene by spreading dry coffee husks to create soft, absorbent bedding.

This activity taught me the importance of early detection and hygiene in poultry health. I developed hands-on skills in basic treatment procedures and learned how good litter management can prevent painful infections and ensure bird comfort



Figure 7. The apprentice managing bumble foot infection

PIGGERY UNIT

During my field attachment one at Busessa demonstration farm, I did a number of activities in the piggery unit such as constructing of an IMO structure, fixing the sack on the pig sty to prevent floods, feeding the pigs, and injecting the piglets with 10%.

2.1.8: Making, using and Management of IMO

At Buseesa Community Development Organization, pigs are raised using a Natural Pig Farming system—a sustainable, non-polluting method that promotes healthy livestock and environmental conservation. This system involves the use of Indigenous Microorganisms (IMO) in a deep litter floor system, where a 3-foot layer of organic material decomposes pig waste naturally. IMO is a homemade microbial mixture that enhances anaerobic digestion, controls odor, and speeds up composting of pig droppings.

As an apprentice, I was assigned the task of preparing and applying IMO. I was provided with materials including rice, molasses, maize bran, water, a polythene bag, and a plastic tank. The process involved fermenting Vet-line powder in water for one week to create the microbial solution. Once ready, the mixture was sprinkled inside the pigsty to eliminate foul odors and improve the breakdown of waste materials. This created a healthier and cleaner environment for the pigs, reducing the risk of diseases while supporting organic manure production. Through this activity, I gained hands-on experience in natural farming practices and organic waste management. I developed skills in microbial preparation, fermentation processes, and the practical application of eco-friendly methods in livestock systems.



Figure 8. The application of IMO by apprentice

2.1.9: vaccinating pigs Against bacterial infections using oxytetracycline.

Oxytetracycline is a broad-spectrum antibiotic used at Buseesa farm for treating and preventing bacterial infections in livestock especially respiratory infection, wounds and post-deworming stress, the commonly used brand was 20% long-acting oxy. The drug also has side effect and it is recommended a withdraw period of 21 days before slaughter to ensure meat safety.

At the farm pigs showed signs such as coughing, nasal discharge, stunted growth, diarrhoea and less appetite, during my field attachment one, the apprentice was signed by the farm manager to administer piglets a preventive dosage depending on the weight and severity of the condition through intramuscular injection in the neck region using sterile syringes and needles.



Figure 9. Administering pig oxy 20% by the apprentice

2.1.10: Feeding of pigs at Buseesa Farm.

Feeding at Buseesa farm involved the use of both commercial and locally available feed resources to minimise costs and promote sustainability. Pigs were fed three times a day, with diets adjusted based on age, weight, and production purpose.

The main feed components included Fresh grass like Napier grass to provide Fiber supplements to improve digestion and gut health, cooked food leftovers like posho, beans from kitchen to enhance digestibility, maize bran as a primary energy source and clean drinking water was made available all the time from nipples. Feed rations were measured to avoid wastage and daily observations were made on pig's feeding behaviour and any signs of feed rejection were reported.

I learned how to balance different feed components to meet the dietary needs of pigs while maintaining cost-effectiveness and ensuring feed safety.



Figure 10. Feeding pigs on maize brand

2.1.11: Mitigation of flooding in pig sties due to rainfall.

During the rainy period at Buseesa farm I observed flooding in the pig sties, which posed a risk to animal health and hygiene. In response, I took the initiative to address the issue by fixing polythene papers onto timber frames. This intervention acted as a barrier to prevent water from entering the pig sties during subsequent rainfall and the solution proved effective in maintaining a dry and safer environment for the pigs.



Figure 11. The apprentice mitigating floods on the piggery structure

GOATS UNIT

Goat rearing is an important agricultural practice that provides meat, milk, manure, and income to many rural households. It plays a vital role in improving livelihoods, especially in smallholder farming communities. Successful goat farming requires proper management practices, good housing, nutrition, and disease control.

Buseesa Community Organization has 96 goats some are mubende goat, boar goat and cross breed. As an Intern Student, I participated in a number of activities such as attending goat lecture cleaning the floor for the goat's shelter, treating Orf, vaccination and deworming.



Figure 12. The Boer and Mubende goat breed kept at BCDO

2.1.12: Attending Goat Lecture

Goat lectures provide essential knowledge on how to manage and care for goats effectively. Topics covered include goat breeds, feeding, reproduction, disease control, housing, and record-keeping. Attending these sessions equips both farmers and students with skills to maintain healthy and productive goats.

During my first field attachment, the apprentice attended a goat management lecture led by the farm consultant, Dr. Kasozi. He provided theoretical insights on goat rearing at BDF. The structures used for goat housing were locally made, and the farm kept Mubende, Boer, and mostly crossbreed goats. Crossbreeding aimed to improve adaptability to the local climate and enhance disease resistance.

Through this experience, learners developed skills in breed selection, structure design, and the importance of adapting livestock to environmental conditions.



Figure 13. The apprentice attending goat lecture

2.1.13: Cleaning the Goat Floor

Cleanliness in goat housing is vital to prevent disease outbreaks and ensure animal comfort. The cleaning process involves removing manure, leftover feeds, and any soiled bedding. Regular cleaning reduces the risk of parasitic infestations and respiratory diseases. Disinfectants may also be used to sanitize the area, ensuring a healthy and odor-free environment.

At Buseesa, I was assigned by the farm manager to clean under the goat house, removing manure and food residues. This task enhanced my understanding of farm hygiene, disease prevention, and routine animal husbandry practices.



Figure 14. The apprentice cleaning under the goat house

2.1.14: Treating Orf in young goats.

Orf, also known as contagious ecthyma or sore mouth, is a viral disease affecting goats. It is characterized by the formation of scabby sores around the mouth, nostrils, and sometimes the teats or feet. Signs of Orf include scabby lesions on the lips, gums, and nose, refusal to eat due to mouth pain, salivation and weight loss in severe cases.

Basing on the course unit livestock health management, the treatment involves cleaning the sores with antiseptics and applying antibiotic ointments to prevent secondary bacterial infections and isolating infected goats are important control measures.

At BDF, some young goats were infected with Orf. We provided treatment using oxy-tetracycline 10% and penicillin injection to prevent secondary bacterial infections and scrubbed affected areas with surgical spirit daily.



Figure 15. Treating Orf and secondary bacterial infections

2.1.15: Vaccination and deworming goats.

Vaccination is a preventive measure used to protect goats from infectious diseases. Common vaccines administered include those against Pesta des Petits Ruminants (PPR), Contagious Caprine Pleuropneumonia (CCPP), and Orf. Vaccination schedules should be followed as recommended by veterinary officers. Goats are usually vaccinated subcutaneously or intramuscularly. Vaccinated goats develop immunity, reducing mortality and improving productivity.

Deworming controls internal parasites like roundworms, tapeworms, and liver flukes. It should be done every three months, rotating drugs to avoid resistance. This improves goat health, feed efficiency, and productivity.

At BDF, the apprentice participated in administering vaccines such as Oxy 20%—2mls for kids and 5mls for adult goats as well as deworming using Albafas, Albenol, and Levafas Diamond. These tasks deepened my skills in livestock health management, dosage administration, and the importance of preventive care.



Figure 16. Deworming and injecting goats against worms and skin infection

DAIRY COW MANAGEMENT

Introduction

Dairy cow management is a crucial component of livestock farming, especially for farmers relying on milk production as a source of income and nutrition. Proper care and handling of dairy cows contribute to their health, productivity, and overall well-being. At BDF they practice zero grazing

for milk production with Hostain Frisian breed and so far, they have one cow. During my field attachment one I participated in activities such as spraying cattle with insecticide, cleaning the kraal, and feeding chopped grass to the animals.



Figure 17. The Friesian breed reared at BCDO

2.1.16: Spraying Cattle with Insecticide

Spraying cattle with insecticide is essential for controlling external parasites such as ticks, lice, and flies. These parasites can transmit diseases like East Coast Fever, Anaplasmosis, and Trypanosomiasis, which reduce milk production and cause poor animal health. Spraying is typically done using a knapsack sprayer or spray races, ensuring the insecticide reaches all parts of the animal, especially under the tail, ears, and between the legs. Protective clothing should be worn to avoid contact with chemicals. Regular spraying maintains animal health and improves productivity.

During my attachment, I was tasked with spraying cattle using a knapsack sprayer. This taught me how to safely handle chemicals, apply insecticides effectively, and maintain animal health.



Figure 18. Controlling external parasites by the apprentice

2.1.17: Cleaning the Kraal

A clean kraal (cattle shelter or enclosure) is vital for the hygiene and comfort of dairy cows. Cleaning involves removing manure, urine-soaked bedding, and leftover feed. This prevents the buildup of harmful bacteria, reduces the risk of diseases such as mastitis and foot rot, and minimizes fly infestation. Disinfectants may also be used to maintain sanitation. Clean housing contributes to better milk hygiene and reduces animal stress, promoting higher milk yields.

Every morning, I could clean the kraal by sweeping and disinfecting the place using jink. The cow dung was used to feed the biogas plant and other rubbish used as manure for our crops after decomposing.



Figure 19. Biosecurity standardization in the kraal

2.1.18: Feeding Chopped Grass to Animals

Feeding chopped grass to dairy cows improves feed intake, digestibility, and reduces wastage. Grass is a major source of roughage, which is necessary for proper rumen function. Chopping the

grass into smaller pieces makes it easier for cows to chew and digest, especially for young or sick animals. The chopped grass should be fresh, clean, and free from mold. Consistent and adequate feeding supports optimal milk production and ensures the animals maintain a healthy body condition. At BDF the cow was fed on chopped Napier grass since the farm was practicing zero grazing and myself, I participated in chopping and feeding of the dairy animal.



Figure 20. Chopping and feeding the dairy cow the fresh grass

CROP PRODUCTION.

Introduction

Sustainable crop management involves the use of eco-friendly and efficient farming practices to enhance productivity while preserving the environment. These practices are especially important in rural and smallholder agricultural systems, where resource optimization and soil conservation are crucial. At BDF I participated in variety of hands-on activities related to sustainable crop management, including preparation of biopesticides, banana plantation maintenance, soil improvement techniques, nursery management, vegetable gardening, and forage establishment.

2.1.19: Making a Biopesticide (Bt)

Bacillus thuringiensis (Bt) is a naturally occurring bacterium used as a biological pesticide to control insect pests. The process involves culturing the bacteria, fermenting it in a nutrient-rich medium, and applying it to crops to control caterpillars and other pests. Bt is safe for humans, beneficial insects, and the environment, making it a valuable tool in organic and sustainable farming.

At BDF, pest infestations (mainly aphids and caterpillars) were severe. The apprentice helped to produce a microbial pesticide using biogas slurry, garlic, molasses, water, and other materials. After seven days of fermentation, we applied it to affected crops, which significantly improved plant health. This practical experience enhanced my skills in sustainable pest control and organic farming.



Figure 21. The apprentice identifying pests on vegetables



Figure 22. The apprentice making biopesticide

2.1.20: De-suckering in Banana

De-suckering is the removal of excess banana suckers to ensure optimal growth of the main plant. It helps reduce competition for nutrients, water, and sunlight, thus improving the yield and health

of the banana mat. Only one or two healthy suckers (followers) are left to replace the main stem after harvesting.

During my field attachment the apprentice was assigned to perform de-suckering in the banana plantation. This activity helped me understand crop spacing, nutrient management, and plantation maintenance techniques.



Figure 23. De-suckering in banana plantation by the apprentice

2.1.21: Pruning and Weeding Banana Plantation

Pruning involves cutting off dead or damaged leaves to improve air circulation and reduce disease pressure. Weeding removes unwanted plants that compete with bananas for nutrients and water. Both practices promote healthy banana growth, prevent pests, and improve access within the plantation.

During my field attachment at BDF I learnt skills in banana management, identifying appropriate mulching materials, removing soil around the banana and removing harvested stem to reduce on pest habitants through participating in activities like pruning, weeding, mulching and removing male bud from the plant.



Figure 24. Pruning and removing old harvested stems in banana plantation by apprentice

2.1.22: Mixing Charcoal Dust in Sack Garden

Charcoal dust is mixed with soil in sack gardens to improve soil fertility and water retention. It acts as a soil conditioner by enhancing microbial activity and reducing soil acidity. This method is especially useful in urban or backyard gardening, where space and soil quality may be limited.

The sack gardens at BDF showed stunted onion growth due to poor aeration. Basing on the course unit soil science, the knowledge was used by the apprentice to source charcoal dust from Buseesa Trading Centre and demonstrated its application to fellow interns, the farm manager, and workers. Mixing it into the compacted soil improved water infiltration and root development. This exercise developed our problem-solving skills and knowledge of soil conditioning in urban agriculture.





Figure 25. Mixing charcoal dust in the sack gardens

2.1.23: Setting Up a Nursery Bed and Transplanting Onions

A nursery bed is prepared to raise healthy onion seedlings before transplanting them to the main garden. The bed is usually well-loosened, fertilized, and protected from harsh weather. Once the seedlings have 3–5 leaves and are about 15 cm tall, they are transplanted carefully into rows in the main field to allow for proper growth and spacing. Since BDF is a demonstration farm we prepared 4 nursery beds of 1m by 3m for vegetables such as onions, nakati, green pepper and carrots. I also transplanted seedlings from the nursery bed onto the cone garden as an urban technology of farming to the Buseesa community and filling gaps in sack gardens to ensure proper spacing and effective use of resources like land and organic manure.



Figure 26. The apprentice establishing vegetables from nursery bed up to transplanting onto the cone garden

2.1.24: Watering of the nursery bed and the seedlings transplanted

This refers to the application of water to the plants in the nursery bed using a watering can or a sprinkler. Here, the intern was tasked to water vegetables like carrots, collard greens, nakati, green paper and amaranthus spp. This was done every day morning and in late evening by using watering can. The aim of watering this vegetable was to moisten the soil to enable plant roots to absorb nutrients from soil and facilitating fast development of plant roots. Watering can is a tool used for holding water for watering the garden.



Figure 27. Watering in the backyard garden

2.1.25: Applying Foliar Fertilizer from Rabbit Urine to Vegetables

Rabbit urine, rich in nitrogen, is an excellent organic foliar fertilizer. When diluted and sprayed on leafy vegetables, it enhances growth and leaf development.

At BDF, we observed weak onions with brownish leaves due to nutrient deficiency. Using rabbit urine (collected earlier by a fellow intern), we applied it in a 1:5 ratio (urine to water). This boosted plant vigor, leaf coloration, and maturity rate. This activity expanded my understanding of organic nutrient cycling and innovative fertilization methods.



Figure 28. Applying foliar fertilizer from rabbit urine on the leafy vegetables

2.1.26: Composting

Composting is the process of decomposing organic materials like kitchen waste, plant residues, and animal manure into nutrient-rich compost. This compost is later used to improve soil structure, fertility, and water retention. Composting is a sustainable way to recycle farm waste and reduce the need for synthetic fertilizers.

There was poor waste management at BCDO where they could mix degradable and non-biodegradable waste in the same pit, as an apprentice student I mobilized the casual workers and fellow interneers under permission of the farm manager to separate the biodegradable from non-degradable and we did compost and recycled polythene bag in preventing flooding on livestock structures.



Figure 29. Waste management by the apprentice at the farm

2.1.27: Planting Super Napier Grass

Super Napier grass is a high-yielding forage crop used to feed livestock. It is planted using stem cuttings in well-prepared fields with adequate spacing. The grass grows quickly and can be harvested multiple times a year, providing a reliable source of green fodder for dairy and meat animals. At BDF they practice zero grazing for dairy cow which required reliable source of pasture to chop for the cow.

During my field attachment I was tasked by the farm manager to plant the Super Napier grass of one acre by stem cutting and this was done in the late evening because it was a dry season.



Figure 30. Establishing animal pasture by the apprentice

2.1.28: Conflict Resolution Between Internees and Administrator.

Conflicts are common in work environments, especially in settings involving interns and administration where expectations may differ. During the field attachment, a structured conflict resolution process was applied to address misunderstandings between internees and the administration. This involved active listening, identifying the root causes, open dialogue, and mutual agreement on solutions. The outcome was improved communication, strengthened collaboration, and a more conducive working environment.

Through this, I gained the knowledge of conflict resolution whereby the internees from mountain of the moon were conflicting with BCDO Administrator for not appreciating their activities and not giving them wages like other farms, and after listening to both sides the intern was tasked to pass out her judgement. Being the intern leader, I had to pass out the judgement without fair or favour and it was truly appreciated.



Figure 31. Attending the meeting to resolve conflicts

2.1.29: BCDO farm Meetings Attended.

As part of the internship, I attended two key organizational meetings. One was with the farm veterinary officer, Dr. Kasozi, who discussed strategies to maintain farm biosecurity. The other involved the administrator, farm manager, assistant manager, and casual workers to address challenges faced in farm operations.

During the meeting, concerns were raised about workers mismanaging their salaries. As an apprentice from ARU with a strong background in visionary approaches, I advised workers to develop personal financial visions to guide their spending. Consequently, I was asked to facilitate a session on visionary thinking for the entire staff. This opportunity strengthened my leadership, communication, and facilitation skills.



Figure 32. Attending the meeting led by the farm consultant



Figure 33. The apprentice attending farm meeting

2.1.30: Revisiting and Formulating Farm Vision

A clear farm vision guides decision-making and inspires all stakeholders toward a common goal. The process involved reviewing the existing vision statement and engaging both management and field staff to reflect on the farm's mission, values, and long-term objectives. Through participatory dialogue, a new or revised vision was formulated to reflect current aspirations, market realities, and sustainable agriculture principles. This exercise brought about renewed commitment and strategic alignment among team members.

During my field attachment I revisited BCDO vision which was “A transformed community with better health and steady income at house hold level” which wasn't clear to me as a student from ARU and I decided to facilitate the session in visionary approach to the farm workers whereby I elaborate for them how to come up with the vision, how to access the current reality and how to go about the action steps for them to achieve their vision. They fully understood the process and they currently drew their vision.



Figure 34. The apprentice facilitating the session on Visionary Planning

2.1.31: Conducting Community Action Planning (CAP) to Formulate Research Topic

Community Action Planning (CAP) is a participatory tool used to identify key issues affecting a farming system. During the CAP session, stakeholders including farm staff, interneers, and BCDO community in presence of my supervisors and Epicenter Manager Kibaale District discussed pressing challenges. One of the most critical issues identified was the high cost of inputs for layer poultry production. Through further analysis and group consensus, a research topic was formulated which is *"The Effect of High Input Costs on the Profitability of Layers in the Farm."*

This topic will guide a detailed investigation into how rising prices for feed, medicine, and other essentials impact production outcomes and profit margins. The findings will contribute to making informed decisions for improving the efficiency and sustainability of poultry operations on the farm.



Figure 35. The apprentice conducting CAP with community members

FISH FARMING.

Fish farming is the subset of aquaculture. Aquaculture is the process of rearing aquatic plants and animals for economic purposes.

The aquatic plants like algae, yams, and planktons while aquatic animals like fish.

At BDF they practice fish farming as an economic project and during my field attachment I attended fish lecture where the admin taught us about the systems, they use which was pond system. On pond fish farming we discussed on site selection, pond construction, stocking rate, water quality management, fish health and predator control, feeding, harvesting and marketing. They keep Nile Tilapia and African cat fish which are mono-sex for quality production.



Figure 36. Fish farming and feeding lecture led by the Joseph

CHAPTER 3: ANALYSIS AND EVALUATION

3.0 Evaluation of Host Farm (BCDO – Buseesa Farm)

- The host farm, Buseesa Community Development Organization (BCDO), offered a hands-on learning environment where I applied classroom knowledge to real-life agricultural situations for example Communication skills gained in lectures helped me effectively interact with farm staff and lead farm vision activities. Knowledge from Soil Science, Crop Production, and Crop Physiology enabled me to make informed decisions on fertilizer application, crop selection, rotation, and pest control. Additionally, Agribusiness training helped me evaluate market trends, calculate production costs, and make profitable decisions regarding egg selling.
- The farm had skilled and supportive technical staff who provided guidance during daily activities. They offered practical demonstrations, answered questions, and helped me apply theoretical knowledge effectively, especially in areas like vaccination, composting, and soil management.
- The farm was well-structured and offered a range of activities in both crop production such as vegetable growing, manuring, weeding, and watering, and livestock production, including feeding, biosecurity standardization, vaccination, and treatment. Interactions with staff were generally positive, and supervisors were supportive and knowledgeable.
- However, the farm faced challenges, including high input costs for drugs and feeds, and limited access to modern technologies, which occasionally affected productivity and efficiency.

3.1.1. Knowledge and skills acquired.

The field attachment experience at BCDO was eye-opening and enriched my understanding of sustainable agriculture practices. During the one-month period, I learned the following lessons:

- Gained skills in proper farm planning and maintaining records while helping to organize planting schedules, input tracking, and harvest logs for vegetable crops. Accurate records helped in monitoring progress and making informed decisions.

- Through daily routines in the poultry and piggery units, I gained skills in disease prevention and animal care. Activities such as vaccinating birds, deworming pigs, and maintaining hygiene in animal shelters taught me how to manage livestock health effectively.
- During the planting of leguminous pastures (such as lablab and desmodium), I learned land preparation techniques, seed selection, and planting methods suited to livestock forage systems.
- Gained teamwork, leadership, and Conflict Resolution by working in diverse teams during daily tasks like weeding, mulching, and animal feeding. When minor disagreements arose, I used conflict resolution techniques to mediate and keep the team focused and cooperative.
- My role in orienting fellow internees and facilitating visionary sessions helped me develop public speaking, listening, and persuasive communication skills. I also regularly communicated with farm workers and supervisors to coordinate tasks and share feedback.

3.1.2 Special Personal Contributions to the Organization

- During my internship, I oriented the farm workers and fellow internees from other universities in the visionary approach, which resulted in three individuals formulating both farm visions and their personal visions.
- Managed weeds in the vegetable garden by mulching with dry grass and improved soil structure by mixing charcoal dust in sack gardens.
- Identified bumble foot infection in poultry, and advised them on appropriate intervention both curative and preventive such as managing the litter in the poultry house after treatment.
- Mitigated flooding in the poultry and piggery units, I fixed polythene sheets along the base of the structures.
- Advised the organization to adopt organic farming practices and facilitated the composting process and the making of biopesticides.
- Additionally, I managed waste around the farm by separating non-biodegradable materials—disposing them in a landfill—and composting biodegradable waste

3.2.0. Challenges Faced

- Lack of protective gear, such as masks, during the application of foliar fertilizer, which had a strong odor and affected our health.
- Negative attitude in the community on the adoption of organic farming practices.
- Limited transportation options at the farm, with only one available tricycle, which hindered access to other branches of the farm.
- Harsh weather conditions disrupted several scheduled farm activities, including the harvesting of beans.
- Limited time for the field attachment led to overworking in an attempt to cover many activities within a short period.
- Some fellow internees were not cooperative; however, I overcame this by encouraging collaboration with those who were willing to work.

CHAPTER 4: CONCLUSION AND RECOMMENDATIONS

4.1. Conclusion

In line with objective 1,2 and 3, the experiential learning gained through this farm-based attachment has been invaluable in reinforcing the principles of sustainable agriculture. By actively engaging in both crop and animal production, I was able to apply theoretical knowledge in a practical setting, deepening my understanding of environmentally responsible farming practices. The dynamic nature of the farm environment also provided opportunities to explore creative and innovative approaches to real-world challenges. Additionally, the attachment significantly contributed to the development of essential soft skills such as teamwork, leadership, and professional communication, all of which are critical for success in the agricultural sector. This experience has not only enhanced my technical capabilities but also shaped me into a more competent and confident agricultural professional.

4.2 Recommendations

4.2.1 Recommendations to BCDO

- Improve communication structures between staff and interns, modernize the farm in more technologies and tools such as grass choppers and protective gear like gloves and masks to enhance productivity.
- Explore sustainable feed sources such as growing maize and pasture to reduce input costs and increase profitability

4.2.2 Recommendations to ARU

- Increase engagement with host farms to ensure alignment of goals, objectives, and student expectations during field attachment. For instance, the host farm mainly practices inorganic farming, and when we suggested making a biopesticide, it took a long time to gain support and see results due to resistance to change.

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APPENDICES

Appendix i) workplan.

VISION: Achieve 40% practical skills in line with 60% theory at BDF by 5th July 2025.

Accountable	Action steps	Due date
Monica	Discuss farm vision and conduct CAP	3 rd July 2025
Moris	Work in banana plantation	28 th June 2025
Farm manager	Work in livestock management	20 th June 2025
Monica	Composting	15 th June 2025
ROBINAH	Weed lablab and plant Napier grass	12 th June 2025
Shakilah	Make nursery beds for nakati and onions	9 th June 2025
Executive Director	Have orientation meeting to take us through the farm activities.	5 th June 2025
Current Reality • Have 60% theory knowledge. • Workers in the farm are available • I have the field mentor and field supervisor, • Practical knowledge and skill available • Flip charts, markers, sell-tape, overall, gumboots, gloves are available • Time is also available to do the work and BCDO farm available		

Appendix ii. URDT visitors at BCDO.



Appendix (iii). Number of livestock at BCDO farm in a table form.

ENTERPRISE	POPULATION
PIGS	34
LAYERS	2553
GOAT	90
COW	01
RABBIT	18

Appendix. (iv). Map Of Kibaale District Showing the Location of Buseesa Community Development Organization in Matala Sub-County.

